

Effluent

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A. INTRODUCTION

A.1. Description

This Wastewater Facilities Planning Study (FPS) was developed for the City of Driggs (Driggs). The overarching goal of this FPS is to create a living document that places important information about the Teton Valley Regional Water Reclamation Facility (WRF) in one document and presents information for Driggs to use in planning for the future. Specifically, this FPS includes the determination of current and future wastewater flows and loads, accounting of current treatment systems, identification of primary alternatives for upgrade of the WRF, selection of a preferred alternative, and an implementation plan.

Driggs is located within Teton County, Idaho, and was founded in 1888. The population was 1,867. The WRF is currently a regional facility that treats wastewater flow from Driggs, Victor, and various unincorporated portions of Teton County. The total population served by the WRF was 3,400 in 2010 and is currently estimated at 5,573. Effluent from the WRF is discharged to an unnamed drainage ditch, which is tributary to Woods Creek, which is tributary to the Teton River. The history of the WRF is as follows:

- 1962: Original lagoon treatment system constructed.
- 1989: Chlorine disinfection facility added.
- 1999: East pond divided into two cells, and aeration added.
- 2009: Surface aerators, baffle curtains, new headworks screen added.
- 2013: Major upgrade completed, including Multi-Stage Activated Biological Process (MSABP), tertiary filtration, and UV disinfection.

Driggs has completed two master planning projects within the past 15 years:

- “Wastewater Treatment Facilities Plan”, Nelson Engineering, 2006.
- “Facility Plan Addendum, Teton Valley Regional Water Reclamation Facility Upgrade”, Aqua Engineering, February 2010.

Driggs has established the following goals for this FPS.

- Create a comprehensive record of existing facilities and infrastructure, including historical flow, quality, and other pertinent data.
- Present logical, reasonable flow and load projections that extend to 2041 (for a 20-year planning window).
- Identify various alternatives to upgrade the WRF to meet current and pending discharge regulations, consider possible future regulations, accommodate population growth, and meet Driggs’s goals regarding resource recovery and use.
- Evaluate the alternatives and select a preferred alternative for further design and funding.
- Develop an implementation plan for construction of the improvements.
- Review impact fees and user rates.

This chapter provides background information about Driggs, an overview of master planning efforts, and an introduction to the overall organization and contents of the FPS.

A.2. Purpose, Need of the Project, and Brief Description of the Plan of Study

A.2.a. Purpose

Prior to 2011, Driggs did not have an ammonia limit for the effluent discharged from the WRF. A new NPDES permit (ID0020141) took effect on January 1, 2011 which had new ammonia limits. The permit included a compliance schedule for attaining the limits, with a final limit of 0.84 mg/L of ammonia (average monthly limit) required to be met by October 1, 2013. The permit included an interim limit of 23 mg/L of ammonia (average monthly limit). Driggs completed upgrades to the WRF in 2013 to meet the new permit requirements.

The WRF has subsequently not been able to meet various permit limits, primarily ammonia but also including some incursions for E. coli, BOD, TSS, and TSS percent removal. EPA entered into a Consent Agreement with Driggs in April 2018, which requires compliance with all effluent limits by April 2020.

A.2.a.1 Planning Period

The planning period for projects of this scale are typically 20 years, an interval based on the terms of common financing arrangements for municipal infrastructure projects and the approximate design life of major equipment components.

A.2.a.2 Authorization and Participants

The City of Driggs is the entity with legal responsibility for authorizing the design and construction of public infrastructure. The City has selected Forsgren Associates Inc. to complete this study.

A.2.b. Report Organization

The City has elected to fund this study utilizing the DEQ's Wastewater Planning Grant Program and will adhere to the requirements within the DEQ's Form 5-A - Outline and Checklist for Planning Document as part of the Clean Water State Revolving Fund. This study is organized according to the DEQ outline for facility planning studies as follows:

A.2.b.1 Chapter A – Introduction

Chapter A provides a brief project description, defines the purpose and scope of the study, and presents the report organization.

A.2.b.2 Chapter B – Existing Conditions

Chapter B presents the existing wastewater treatment plant condition, capacity, and adequacy in terms of current regulatory requirements. It also presents the environmental backdrop against which the deficiency remedies are evaluated.

A.2.b.3 Chapter C – Future Conditions

Chapter C addresses the future land use and development patterns for the community, projects future population growth, extrapolates population growth into anticipated wastewater flows, forecasts changes to the regulatory environment that may affect wastewater treatment, and identifies the treatment system capacity required to meet the growth and regulatory changes.

A.2.b.4 Chapter D – Development and Initial Screening of Alternatives

Chapter D describes the problems and deficiencies identified in the analysis of the existing system, problems discovered while developing future conditions, develops criteria for use in

initial screening of alternatives, presents various alternatives in preliminary form, and evaluates the alternatives using the initial screening criteria.

A.2.b.5 Chapter E – Final Screening of Principal Alternatives and Facility Plan Adoption

Chapter E describes the alternatives advanced from the initial screening to a final screening with greater detail and develops process flow diagrams or sketches of the alternatives, highlights the advantages and disadvantages of each alternative, presents criteria for use in final screening of alternatives, evaluates the final alternatives against the final screening criteria, outlines capital and operation and maintenance costs, and recommends an alternative as the preferred solution to the deficiencies identified in earlier chapters.

A.2.b.6 Chapter F – Recommended Alternative Description and Implementation

Chapter F provides a detailed description of the selected alternates along with the justification for each selection, develops a conceptual design of the selected alternates, presents the construction cost for the selected alternates, evaluates the user charge system with respect to financing the selected alternates, and identifies operational requirements for the selected alternates.

A.2.b.7 Chapter G – Public Participation

Chapter G provides a detailed description of the public's reception and comments of the intended project.

A.2.b.8 Chapter H – Development of an EID

Chapter H provides a description of requirements and development of the Environmental Impacts Document (EID) according to Forms 5-B and 5-C.

A.2.b.9 Chapter I – Appendices

Chapter I provides supplementary information used to prepare the study and other information referenced in the study.

A.2.c. Project Responsibility

A.2.c.1 Financial Resources

The City of Driggs has the technical qualifications, experience, organization, and adequate facilities to carry out the projects recommended according to the project schedule.

The City may obtain the funding to carry out the recommended projects as advised in Chapter F.

A.2.c.2 Performance Record

The City of Driggs understands the value in preparing and implementing the recommendations of facility planning studies.

A.2.c.3 Legal Requirements

The City of Driggs understands the statutory requirements that must be followed when a municipality solicits bids for public works construction or purchases services or property. These requirements are found in Idaho Code Title 67, Chapter 28.

The City also understands the requirements for constructing, maintaining, and safeguarding wastewater facilities. These requirements are found in the Idaho Wastewater Rules (IDAPA 58.01.16) promulgated and enforced by the Idaho Department of Environmental Quality.

The City also understands that disposal of wastewater must be handled in accordance with the Clean Water Act administered through the US Environmental Protection Agency's NPDES permit program and reuse of wastewater must follow the requirements found in the Idaho Recycled Water Rules (IDAPA 58.01.17.)

A.2.d. List of Abbreviations

This section presents common abbreviations used in this report.

ADF	average day flow
AF	acre-feet
AFY	acre-feet per year
BOD	biological oxygen demand, a measure of the organic matter in wastewater
DEQ	Idaho Department of Environmental Quality
DPR	direct potable reuse
ERU	equivalent residential unit
FPS	facilities planning study
FT	feet
FT-MSL	feet-mean sea level, a measure of the elevation of a site or facility
GAL	gallons
GPCD	gallons per capita per day
GPD	gallons per day
GPM	gallons per minute
HP	horsepower
IGA	Intergovernmental Agreement
IPR	indirect potable reuse
KGAL	one thousand gallons
LF	linear feet
MDF	maximum day flow
MGAL	one million gallons
MGD	million gallons per day
mg/L	milligrams per liter, a measure of concentration
PER	persons
PF	peaking factor
PHF	peak hour flow
PPD	pounds per day
SBR	sequencing batch reactor, referring to a type of wastewater treatment process

TDS	total dissolved solids, a measure of dissolved ions in wastewater
TKN	total Kjeldahl nitrogen, a measure of the organic and ammonia nitrogen
TIN	total inorganic nitrogen, a measure of nitrite, nitrate, and ammonia in wastewater
TMDL	total maximum daily load, loads assigned by DEQ for water quality protection
TP	total phosphorus, a measure of organic and inorganic phosphorus in wastewater
TSS	total suspended solids, a measure of the suspended matter in wastewater
USDA	United States Department of Agriculture, potential funding agency
WRF	Water Reclamation Facility

B. EXISTING CONDITIONS

This chapter provides information regarding existing conditions for Driggs. Service area, planning area, historical population totals, historical wastewater flows, historical wastewater quality, and the existing treatment system are discussed, as well as historical and projected wastewater flows.

B.1. Planning Area Boundaries

The Driggs WRF serves the City of Driggs, Victor and the surrounding community in Teton County, Idaho. Driggs is located approximately 10 miles south of Teton, Idaho along ID-33. The planning area encompasses the current boundaries of the WRF as shown in Figure B-1.

Figure B-1 Driggs WRF Location





Figure B-2 Site Layout

B.2. Existing Environmental conditions

B.2.a. Physiography, Topography, Geology, and Soils

B.2.a.1 Physiography

Driggs, Idaho lays in an area of the Columbia Plateau known as the Snake River Plain Physiographic Province, see the USGS map provided in Figure B-3.

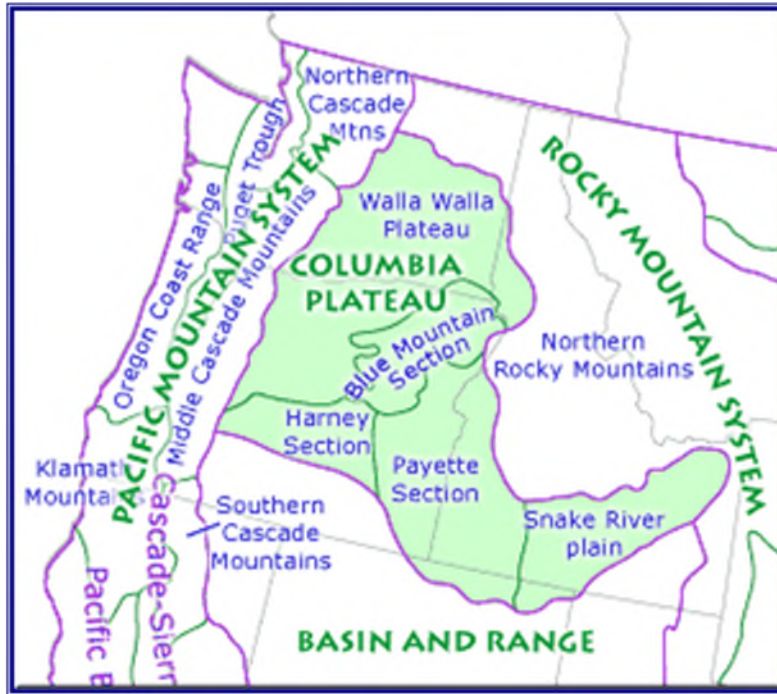


Figure B-3 Snake River Plain USGS Map

B.2.a.2 Topography/Surface Hydrology

Driggs, Idaho is located at an average elevation of 6,100 ft above sea level and is situated on relatively flat terrain surrounded by the Caribou-Targhee National Forest to the west and the Teton National Forest to the east.

B.2.a.3 Geology

The Driggs area is underlain by Quaternary surficial cover, alluvial fans. A geologic map of Teton County is presented in Figure B-3 Snake River Plain USGS Map

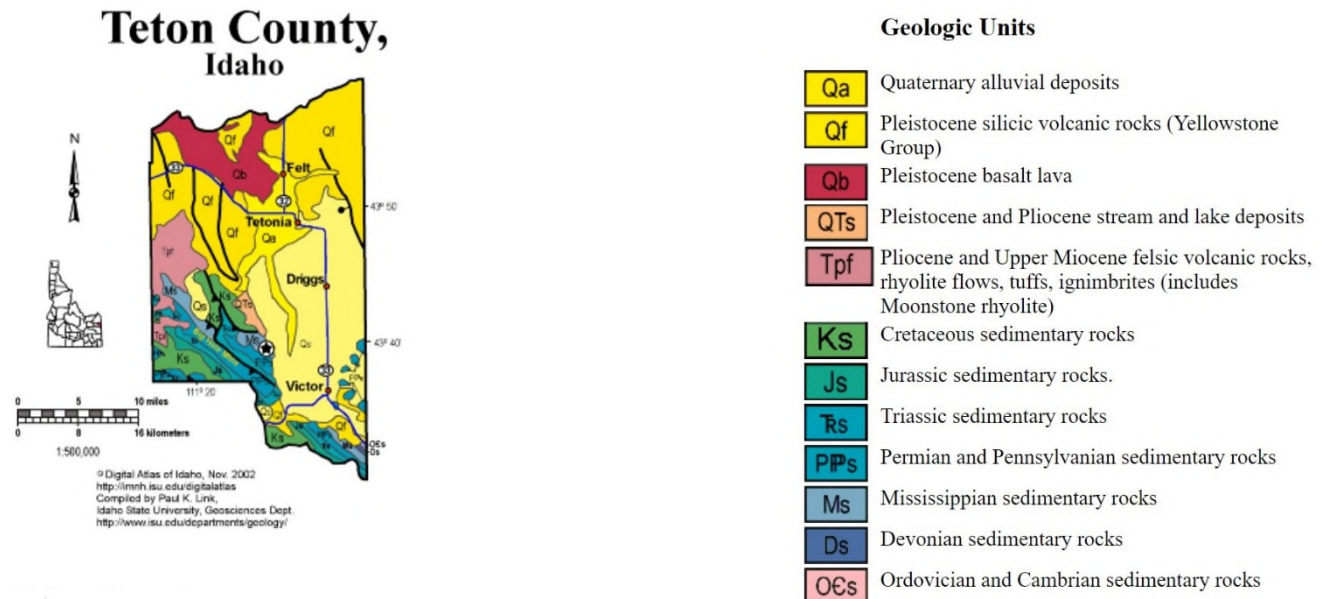


Figure B-4 Teton County Geological Map

B.2.a.4 Soils

The NRCS has designated the soil types in the Driggs area. The most common types of soil groups include Alluvium and Loess formations, Foxcreek-Zohner-Furniss and Alpine Altaby-St. Anthony type soils are prominent in the region, see Figure B-4.

B.2.b. Surface and Groundwater Hydrology

B.2.b.1 Surface Water

The City of Driggs, is located between several tributary streams for the Teton River.

B.2.b.2 Groundwater

Teton Valley Basin lies beneath the City of Driggs. In most places, the groundwater is constantly in motion. It moves from places of high head (pressure measured by water levels in wells) to places of low head, from areas of recharge to areas of discharge. It is generally recharged in the highlands and discharged in the lowlands. The basin area is shown on the USGS map in Figure B-3 Snake River Plain USGS Map. The Driggs area groundwater system is primarily within stream and glacial deposits, silicic volcanics and pretertiary sedimentary rocks (Kilburn, 1964) Reported static water levels in wells penetrating the flow system varied from 1 to 375 ft, and reported specific capacities ranged from 2 to 1400 gpm/ft. The flow system is recharged primarily by downward percolation of precipitation and snowmelt that falls within the basin, runoff from the surrounding uplands, direct infiltration into permeable sedimentary rock formations. (Whitehead, 1978).

B.2.c. Fauna, Flora, and Natural Communities

Appendix G includes a copy of the U.S Fish and Wildlife Service – Idaho Fish and Wildlife Species List.

B.2.d. Housing, Commercial, and Industrial Development

Based on census data, the median value of an owner-occupied single-unit home in Driggs is \$210,000 compared with \$207,500 for all of Idaho. Median family income for Driggs is \$55,087, compared with \$52,225 for the State of Idaho. The majority of the Driggs area is residential.

B.2.e. Cultural Resources

The potential for historically significant cultural resources to be detected in the urban or suburban areas of Driggs are low due to the existing infrastructure and land use. In areas that are undisturbed from their natural state the likelihood of identifying cultural resources increases. To assess the potential more fully for discovery of cultural resources in the region the Idaho State Historical Preservation Office (SHPO) must be contacted.

B.2.f. Utility Use

It is anticipated that the proposed projects can be completed within existing utility corridors or on property currently owned by City of Driggs. Acquisition of property or easements is limited.

Near Driggs WRF there is wastewater and water collection and treatment facilities. These facilities provide water and sewer services for those within the Driggs city limits. The City of Driggs owns and operates the WRF. Additionally, the City of Driggs also has responsibility for maintenance of the road network except for the State Highway that runs through Driggs, this is owned and maintained by Idaho Transportation Department.

B.2.g. Floodplains/Wetlands

B.2.g.1 Floodplains

The Driggs WRF is located within a Flood Zone A which is listed as an area that has not had detailed analyses of depths or base flood elevations.

B.2.g.2 Wetlands

“Wetlands generally include swamps, marshes, bogs, and similar areas. They provide important wildlife habitat, help to maintain surface water quality and provide flood water storage.” The Wetland

Data Viewer on Idaho Department Fish and Game’s website shows that the Driggs WRF is located within an area classified as fresh water emergent wetland.

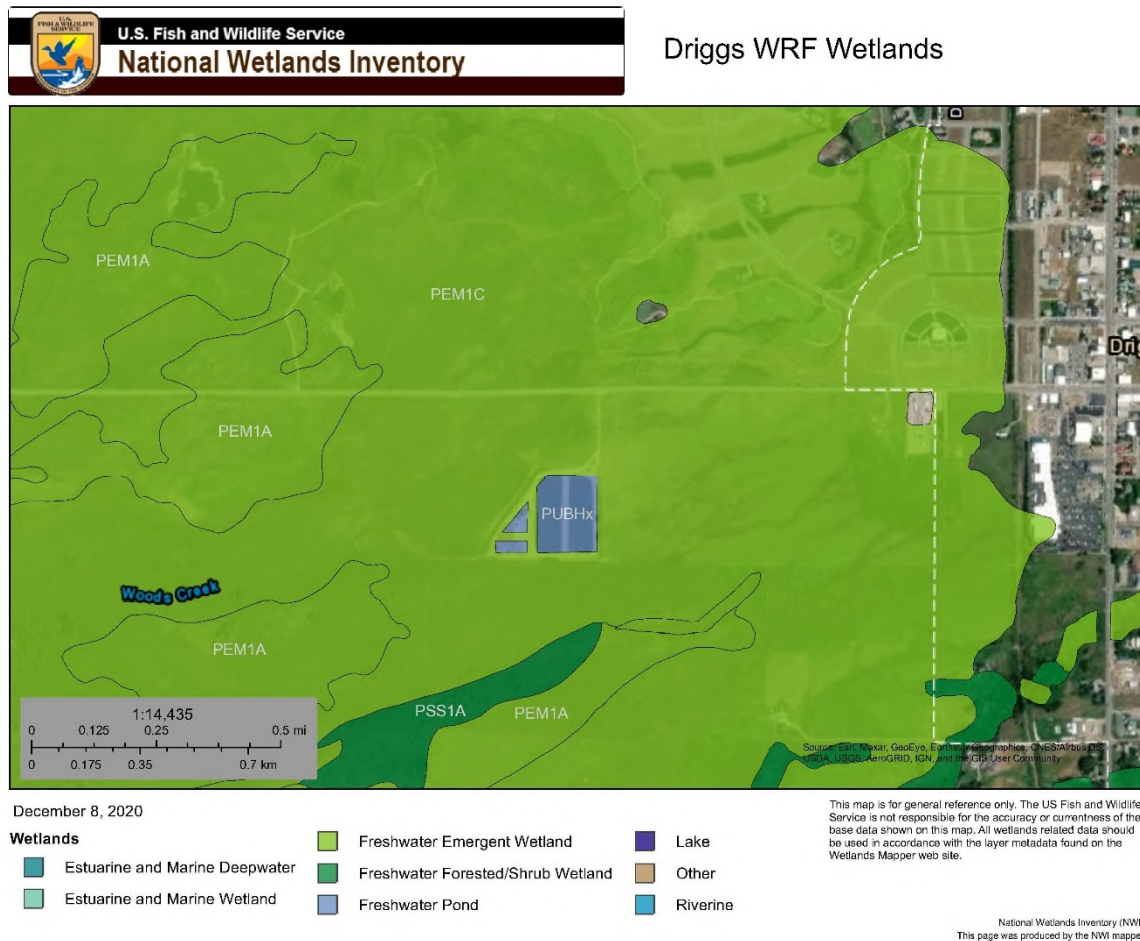


Figure B-5 Wetlands Boundaries

B.2.h. Wild/ Scenic Rivers

According to IDWR there are no Wild and Scenic River in the vicinity of Driggs WRF; therefore, impact to such rivers is unlikely.

B.2.i. Public Health and Water Quality Considerations

Effluent from the WRF is discharged to an unnamed drainage ditch, which is tributary to Woods Creek, which is tributary to the Teton River. The Driggs WRF monitors and maintains the effluent quality to protect the public’s health and well-being while keeping the waterways in compliance with DEQ regulations and EPA guidelines. Any project that is considered for the WRF’s refurbishment and expansion will improve reliability and provide redundancy.

B.2.j. Prime Agricultural Land Protection

The area in and around the City of Driggs is Prime Agricultural Farmland. Any improvements that will be made to the existing WRF will be located within the site which is not considered Prime Agricultural Farmland.

B.2.k. Proximity to Sole Source Aquifer

The Sole Source Aquifer (SSA) Protection Program is authorized by Section 1424(e) of the Safe Drinking Water Act of 1974 (Public Law 93-523, 42 U.S.C. 300 et. seq). EPA defines a sole or principal source aquifer as one that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer and the supported areas have no alternative drinking water source(s) which could physically, legally, and economically supply drinking water. The WRF is located within the Eastern Snake River Plain Aquifer. However, any improvements will use the DEQ manual to utilize stormwater best management practices to mitigate water contamination and avoid any impacts to the aquifer.

B.2.l. Land Use and Development

Driggs WRF is located on city owned land that is zoned for the facility's use, see Appendix C for City of Driggs and the land uses within it.

B.2.m. Climate

B.2.m.1 Precipitation

According to the Western Regional Climate Center, in the Driggs, Idaho (102676) weather station the average total precipitation annually is 16.01 inches. This comes from data collected from 08/01/1904 to 06/09/2016, see Appendix C.

B.2.m.2 Temperature

According to the Western Regional Climate Center, in the Driggs, Idaho (107644) weather station the annual average maximum temperature is 53.9°F and the annual average minimum temperature is 25.9°F. See Appendix C.

B.2.m.3 Prevailing Winds

According to the Western Regional Climate Center, in Driggs the prevailing wind direction is coming from the south.

B.2.n. Air Quality and Noise

The existing wastewater treatment has some impact on air quality and noise. The impact on air quality and noise from the existing system are odors from the unit processes and the noise from the mechanical equipment. Impacts of construction of the proposed improvements on air quality, including noise and odor are expected to be minimal. During construction, possible air emissions include fugitive dust and emissions from construction equipment. Contractors will be required to use Best Management Practices (BMPs) to minimize the effects of fugitive dust on the surrounding area. Emissions from construction equipment will be minimal due to the duration of the construction period and the limited number of pieces of equipment that will be operating. In addition, construction will be limited to the times of day that will have the least potential for noise impact on the surrounding community. No odor problems are anticipated during construction.

B.2.o. Energy Production and Consumption

The existing system consumes energy. Most of the system flows by gravity. However, there are automatic screens, multiple pumps, blowers, UV disinfection system, and other unit processes integral to the wastewater treatment process.

The recommended improvements will utilize high efficiency pumps and VFD's for energy savings where applicable.

B.2.p. Socioeconomic Profile of the Affected Community

No adverse environmental impacts are anticipated because all portions of the Driggs WRF are located within existing utility corridors, in City owned property or rights of way.

It can generally be acknowledged any time City service rates are raised households on a fixed income will be adversely affected, and because sewer treatment is a City service the populous will have the right to voice opinion in public meetings in regard to any price increase.

In terms of environmental impacts any proposed capital improvements will be selected to provide compliance with regulatory agency requirements. Compliance with the regulatory requirements provides equal protection from environmental and public health hazards for all citizens that are served by the Driggs WRF regardless of race, income, culture and social class. Furthermore, since no significant environmental impacts are anticipated, it is not projected that any citizens or group of people including racial, ethnic or socioeconomic groups bear a disproportionate share of any negative environmental consequences resulting from the proposed capital improvements.

Table B-1 shows the historical population for Driggs and Victor.

Table B-1 Historic Population

Year	Driggs	Victor	Unincorp. Teton County	Total
1990	846	292		1,138
2000	1,100	840		1,940
2010	1,660	1,928	538	4,126
2011	1,641	1,912	533	4,086
2012	1,632	1,911	531	4,074
2013	1,674	1,908	537	4,119
2014	1,676	1,957	545	4,178
2015	1,718	2,004	558	4,280
2016	1,783	2,091	581	4,455
2017	1,814	2,155	595	4,564
2018	1,814	2,260	611	4,685
2019	1,817	2,503	622	4,942
2020	1,867	2,979	643	5,489

Notes:

1. Driggs and Victor population values were obtained from factfinder.census.gov. 2011-2018 values are Census estimates.
2. Population of unincorporated Teton County residents served by the WRF is based on the historical average (15%).

B.2.q. Maps, Site Plans, Schematics, Tables, and Letters from Consulted Agencies

The maps, site plans, schematics, tables, and letters from the consulted agencies are located in Appendix C.

B.3. Existing Reuse Practices, Wastewater Collection System, Wastewater Treatment Practices and Current Wastewater Flows

B.3.a. Major Influent Characteristics

The City of Driggs's WRF includes headworks, MSABP basins, plate settler, effluent disc filter, UV disinfection, drain pump station and aerated lagoons to treat the wastewater entering the facility.

B.3.a.1 Average Daily Flow (ADF)

Figure B-6 shows the average daily influent and effluent flows for the WRF.

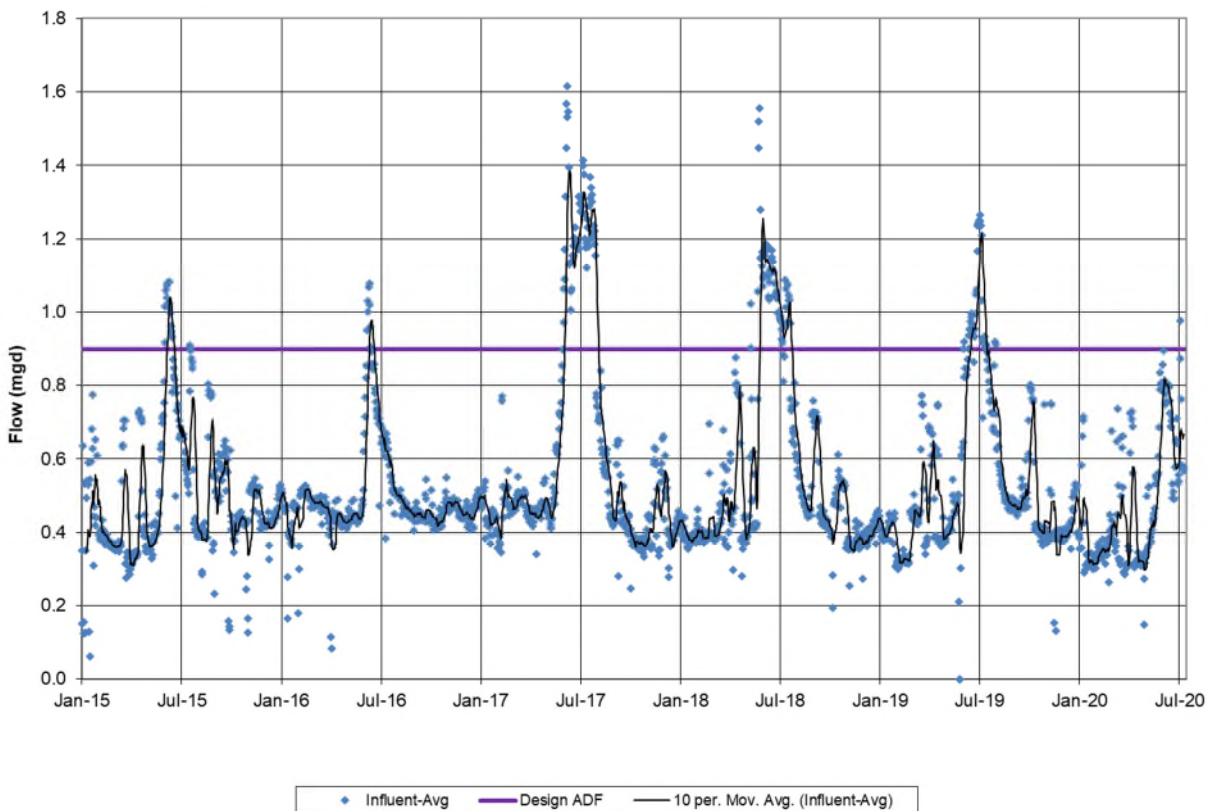


Figure B-6 Average Daily Influent and Effluent Flows

Based on the population and winter flow data when infiltration & inflow has been minimized, unit flows for each year are as follows:

- 2015: 86 GAL/DAY/CAP
- 2016: 103 GAL/DAY/CAP
- 2017: 101 GAL/DAY/CAP
- 2018: 88 GAL/DAY/CAP
- 2019: 92 GAL/DAY/CAP
- 2020: 77 GAL/DAY/CAP

A value of 100 GAL/CAP/DAY will be used for future flow projections.

B.3.a.2 Flow Peaking Factors

A peaking factor (PF) is used to evaluate pipe capacities at peak hour flow (PHF) conditions. The maximum day peaking factor (MPF) is used to design future capacity of the WRF.

The peaking factor (PF) is defined as:

$$PF = \frac{PHF}{ADF} \quad (1)$$

Historical average daily flow and peak hourly flow data was provided by the City. This data allowed the calculation of ADF, MDF, and PHF during both the winter base flow and summer high flows associated with I&I.

Figure B-1 provides the PHF data provided by the City for the years of 2017 and 2018.

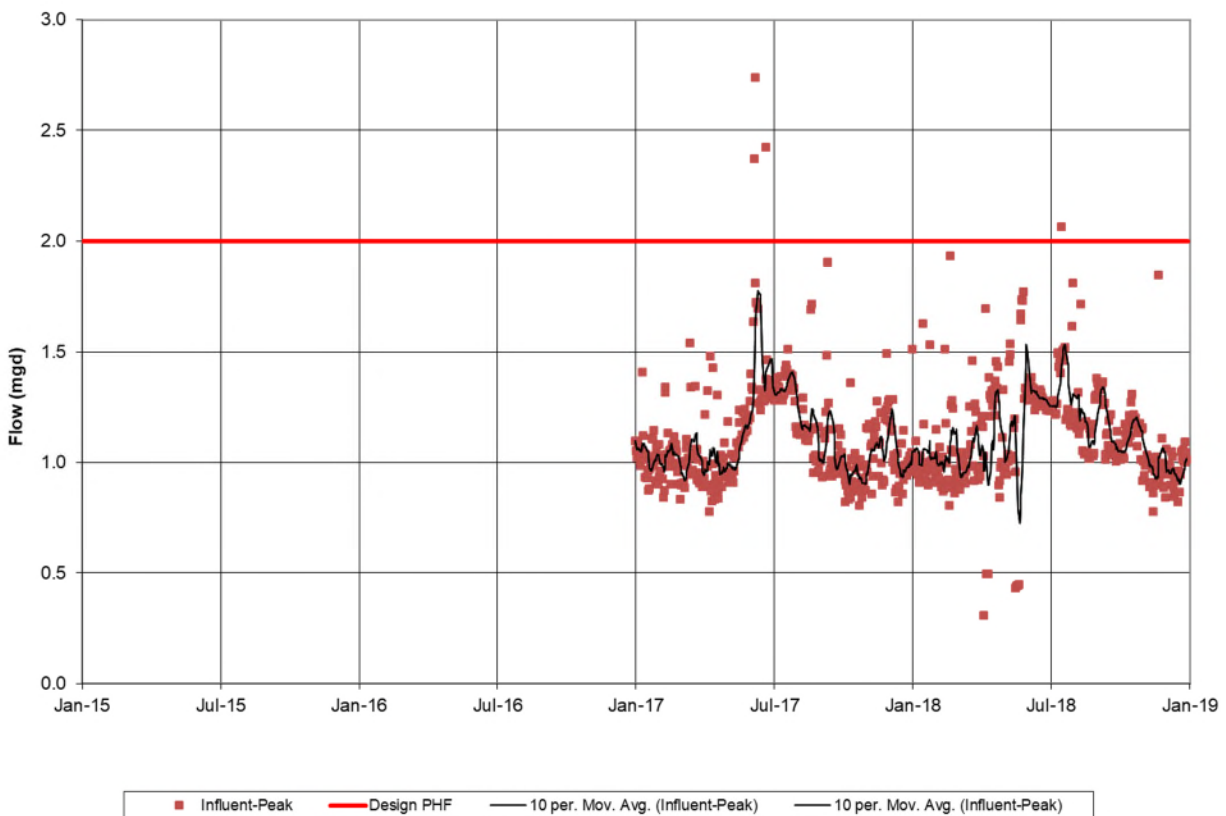


Figure B-7 Peak Hourly Flow Data

Table B-2 provides design peaking factors calculated using flow data from 2017-2018, EPA suggestions, and 10-States design manual based on service population.

Table B-2 Peaking Factors

Peaking Factors			
Criteria	2015-2018 data	EPA	10 States
Winter Avg Day Flow	-	-	-
Winter Max Day Flow	2.0 x WADF	-	-
Summer Max Day Flow	3.0 x WADF	-	-
Peak Hour Flow	3.9 x WADF	3.1	3.3

Notes:

EPA PF based on $MDF = 0.75 \times PHF$

10 States PF based on Figure 1

B.3.a.1 Historic Wastewater Loading

Discharge monitoring reports (DMRs) are currently prepared for influent wastewater monthly. Influent flow is continuously recorded daily at the drum screen for both average day flow and max day flow. Influent BOD and TSS are measured twice per month. Influent ammonia is currently not measured.

Figure B-6 provides the average daily flows measured for the influent and effluent for the time period of 2015-2020. The highest flows are measured in spring and summer and are associated with infiltration of groundwater into the conveyance system. The increase in groundwater elevations and intrusion is a result of both snowmelt and irrigation practices (primarily unlined canals and ditches). The design average daily flow (ADF) is 0.9 MGD, purple line, which is exceeded between the months of May and September. The design capacity was exceeded from May 25 to July 23 during 2018. This results in a decreased hydraulic retention time (HRT) which may lead to incomplete treatment and discharge infractions. The red line corresponds to the peak hourly flow (PHF) of 2.0 MGD. It can be seen from the graph that average daily flows are approaching 1.6 MGD during the summer months for the years 2017, 2018 and 2019. However, the City has implemented an infiltration and inflow reduction effort that has reduced flows by 300,000 gallons and max summer flows have been reduced to 1.0 MGD.

Throughout the report, design values are compared to the influent and effluent concentration and flow values. Design values represent the maximum loading capacity that a facility is designed to treat. The influent and effluent flow and concentration values are the reported values of the wastewater entering or the treated effluent water leaving the facility.

Figure B-8 provides influent BOD and TSS concentrations for the 2015-2020 time period. Notice that the concentrations of BOD and TSS decrease in the summer months, which is due to I&I diluting the concentration. This can help in meeting discharge limit concentrations but makes meeting the percent removal requirements more difficult. However, the Driggs in July 2020 instituted infiltration and inflow reduction measures will negate the dilution effect seen in the peak season effluent.

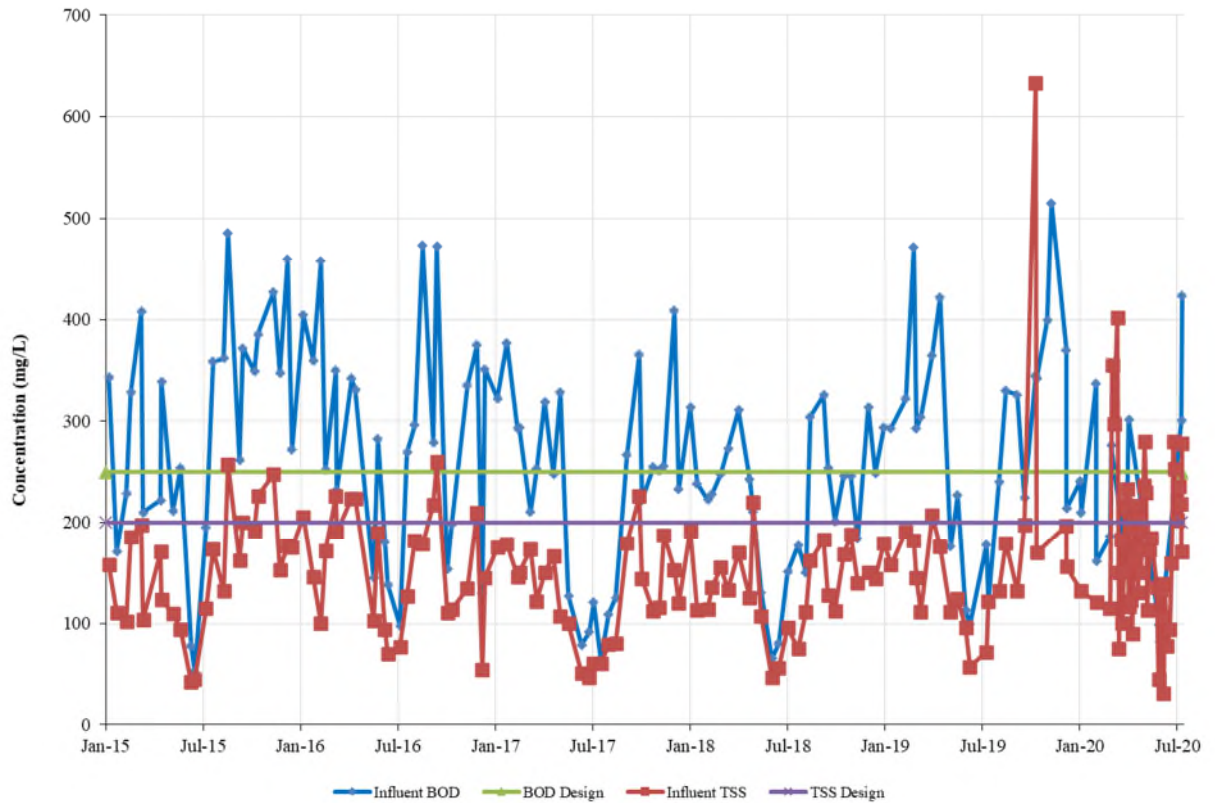


Figure B-8 Influent and TSS Concentrations (2015-2020)

Figure B-9 provides influent BOD and TSS flow weighted loads for the 2015-2020 time frame. Notice that the influent BOD and TSS loads remain relatively consistent. This observation supports the hypothesis that groundwater is entering the conveyance system since the pollutants are diluted, but the loadings remain consistent. This is result of groundwater being low in BOD and TSS. Generally, loadings are less than the design value (1,877 LB/DAY for BOD and 1,501 LB/DAY for TSS), however several exceedances for BOD can be observed.

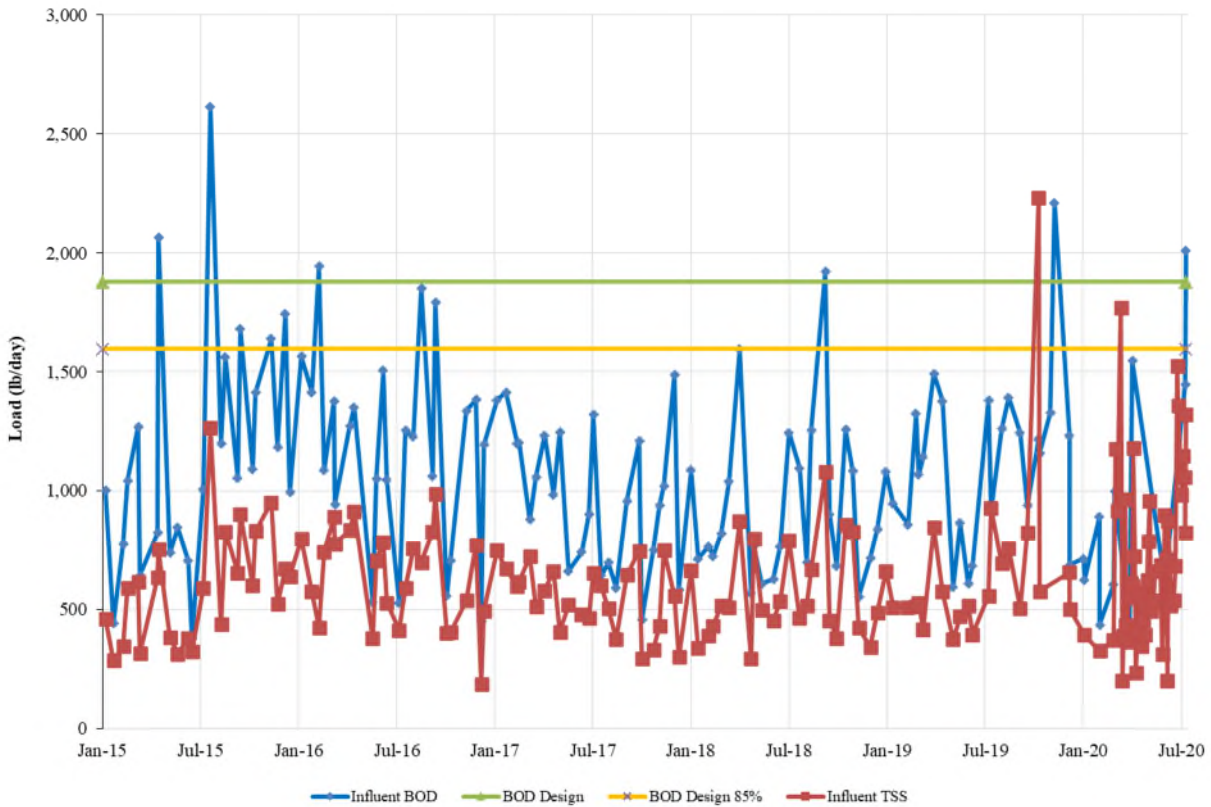


Figure B-9 Influent BOD and TSS Loads (2015-2020)

Influent BOD and TSS data for the 2015-2020 time period is summarized in Table 2-16. Design values for the WRF are BOD of 250 mg/L and TSS of 200 mg/L.

Table 2-16
Influent Loading Data 2015-2018

Item		BOD (mg/L)	TSS (mg/L)
2015	Max.	486	258
	Peak Seasonal Avg	424	209
	Min.	52	42
2016	Max.	473	260
	Peak Seasonal Avg	385	239
	Min.	98	54
2017	Max.	409	226
	Peak Seasonal Avg	350	203
	Min.	64	47
2018	Max.	325	220
	Peak Seasonal Avg	290	164
	Min.	65	47
2019	Max.	836	633
	Peak Seasonal Avg	457	402
	Min.	104	57
2020	Max.	424	402
	Peak Seasonal Avg	362	205
	Min.	82	31

B.3.b. Location of Industrial and Municipal Treatment Plants

B.3.b.1 Municipal Treatment Plants

The Driggs WRF is located on S 1250 W. in Driggs, ID 83422

B.3.b.2 Sludge Management Areas and Facilities

The Driggs WRF currently stores all biosolids within the existing lagoons.

B.3.b.3 Pumping Stations

There are 17 lift stations operated by the City and 2 operated by other sources for a total of 19 liftstations within the Driggs collection and treatment system.

Table B-3 Liftstation Data

Liftstation Data			
Location	Pump Size (hp)	Duty Pumps	Spare Pumps
Main	20.0	2	1
South	20.0	2	
Creekside	20.0	2	0
Huntsman Starflower	15.0	2	0
Valley Center	10.0	2	1
Huntsman Lagoon	7.5	2	1
Huntsman Indian Paintbrush	7.5	2	
Huntsman Shasta Daisy	7.5	2	
WWTP EH	7.5	3	0
Huntsman Comfort Station	5.0	2	0
Huntsman Bitterroot	5.0	2	0
WWTP Lagoon return	5.0	1	0
Redtail	3.0	2	0
Clubmoss	3.0	2	0
Huntsman O&M	3.0	2	0
Huntsman Spa	2.0	2	0
WWTP Drain Pumps	2.0	2	0
Forest Service	1.5	2	0
Cottongrass	1.5	2	0

Driggs's WRF serves The City of Driggs, Victor, and the surrounding area. Huntsman O&M and Huntsman Spa liftstation ownership was transferred to Tributary in the fall of 2020.

B.3.c. Facility Descriptions

The WRF is designed for the flows and loadings listed in Table B-4.

Table B-4 WRF Design Criteria

Parameter	Units	Phase I (2030)	Phase II
Flow			
Annual Average Daily Flow	MGD	0.90	1.35
Peak Hour Flow	MGD	2.00	3.00
BOD			
Concentration	MG/L	250	250
Loading	LB/DAY	1877	2815
TSS			
Concentration	MG/L	200	200
Loading	LB/DAY	1501	2252
TKN			
Concentration	MG/L	35	35
Loading	LB/DAY	263	394

The Phase II criteria was used to size some (but not all) of the unit processes for the initial WRF design in 2012. This will be discussed in the description of each process.

The Idaho Public Wastewater Treatment Plant Classification Worksheet was used to determine the grade classification of the current facility. Based on our interpretation of the worksheet, the facility has points total of 53 which makes the facility a Class II system. The maximum number of points for a Class II facility is 55 points.

The remainder of this section will present information on each unit process.

B.3.c.1 Influent Screening

Raw wastewater passes through the Parshall flume and enters the Existing Headworks Building. This building contains the influent coarse screens. Table B-5 lists the key design parameters. Provisions for the addition of a third screen are not included; expansion of the Existing Headworks Building will be required for Phase II. Note that the operators have reported backups during high flows; Since equipment designs cannot predict what types of material will be screened versus entering the equipment, the design capacity of 2 MGD is only a clean water flow rate. A typical screen blinding factor estimate for municipal wastewater ranges from 40-60%. This would reduce the flow capacity of the screens to 1 MGD at a 50% screen blinding scenario.

Table B-5 Influent Screening Design Criteria

Parameter	Units	Value
Type		Step Screen
Opening Size	MM	6
Number of Units		(1 Duty, 1 Reserve) 2
Capacity, each unit	MGD	(Clean Water) 2.00
Capacity, each unit	MGD	(Blinded, Wastewater) 2.00

B.3.c.2 Influent Pumping

Screened wastewater from the Headworks Building is conveyed to the lift station. Wastewater can also be sent to the Aerated Lagoons via the bypass piping or the Lift Station overflow. Table B-6 lists the key design parameters. Note that provisions for the addition of a fourth pump are not included; replacement of the existing pumps or expansion of the Lift Station structure will be required when the WRF capacity is increased.

Table B-6 Influent Lift Station Design Criteria

Parameter	Units	Value
Type		Submersible Centrifugal
Number of Units		3 (2 Duty, 1 Redundant)
Capacity, each unit	MGD	1.00

B.3.c.3 Fine Screens (Drum Screens)

Wastewater from the Influent Lift Station is passed through the drum screens for further removal of large particles. This is required as part of the MSABP in order to remove the majority of the inert material in the wastewater prior to biological treatment. The drum

screens are sized to meet the Phase II flows with one unit out of service. The drum screens are located in the New Headworks Building. Table B-7 lists the key design parameters.

Table B-7 Drum Screens Design Criteria

Parameter	Units	Value
Type		Mechanical Drum Screen
Opening Size	MM	1
Number of Units		(1 Duty, 1 Reserve) 2
Capacity, each unit	MGD	3.00

B.3.c.1 Grit Removal

Effluent from the drum screens is further treated for grit removal. The system is sized to meet the Phase II flows but does not include redundancy. In the event the grit removal system is not operating, flow bypasses this unit process. The grit removal system is located in the Blower Building. Table B-8 lists the key design parameters.

Table B-8 Grit Removal Design Criteria

Parameter	Units	Value
Type		Vortex
Number of Units		(1 Duty, 0 Reserve) 1
Capacity, each unit	MGD	3.00

B.3.d. MSABP Basins

Wastewater then enters the Multi-Stage Activated Biological Process (MSABP) system for biological treatment. The MSABP system is a proprietary product of Aquarius Technologies. The system features 12 cells per train, each with rope-style media for attached growth and aeration diffusers. Wastewater flows through each cell in sequence, and each cell gradually reduces the amount of waste matter in the water. The effluent from the process is ready for discharge with no further clarification. The MSABP process is expected to achieve monthly average effluent concentrations of 30 mg/L for BOD, 30 mg/L for TSS, and less than 1 mg/L or 8 lbs/ day for ammonia. The system was originally designed with the expectation that it would produce zero excess biosolids. Table B-9 lists the key design parameters. Space has been reserved on the site for the addition of a third train when the WRF is expanded for Phase II.

Table B-9 MSABP Design Criteria

Parameter	Units	Value
Number of Units (Trains)		(2 Duty, 0 Reserve) 2
Stages per Train		12
Basin Length	Feet	84
Basin Width	Feet	44
Treatment Depth	Feet	17
Volume, each unit	MGAL	0.453
Total Volume	MGAL	0.906
Bio-Media Frames		144
Average Daily Flow	MGD	0.9
Max Month Flow	MGD	1.10
Peak Hour Flow	MGD	2.07
HRT at Avg Day Flow	HR	24
Influent BOD	mg/L	250
Influent TSS	mg/L	250
Influent Ammonia	mg/L	35

B.3.d.1 Blowers

The blowers that supply air for the MSABP process are located in the Blower Building. Table B-10 lists the key design parameters. The design allows for one blower per MSABP train, with one redundant blower. The blower room includes space for addition of a fourth blower to serve the third MSABP train that would be installed in Phase II.

Table B-10 MSABP Blower Design Criteria

Parameter	Units	Value
Type		Turbo Centrifugal
Number of Units		3
Capacity, each unit	CFM	625

B.3.d.2 Plate Settler

Treated effluent from the MSABP process receives further clarification through the Plate Settler Tank. The plate settler system provides additional removal of suspended materials to help in meeting the discharge limits. The tank includes a flash mix section and flocculation section for future chemical addition, presumably for phosphorus removal; these sections are currently not in use. Table B-11 lists the key design parameters.

Table B-11 Plate Settler Design Criteria

Parameter	Units	Value
Type		Inclined Plates
Number of Units		1
Capacity, each unit	MGD	2.650

B.3.d.3 Effluent Disc Filter

Tertiary filtration is provided for further treatment of the clarified effluent. The filter is typically only used when BOD and TSS removals are not met by the MSABP and plate settler system. One metal media disc filter unit is provided, and piping is included to bypass the filter. This system is located in the Filter/UV Building. Table B-12 lists the key design parameters.

Table B-12 Disc Filter Design Criteria

Parameter	Units	Value
Type		SS Media Disc Filter
Number of Units		1
Capacity, each unit	MGD	2.3

B.3.d.4 UV Disinfection

Disinfection of filter effluent is accomplished by ultraviolet (UV) light. The system does not have a redundant channel, but rather uses a single channel with redundant UV banks. Table B-13 lists the key design parameters. The system includes a temporary baffle wall that will be removed, and additional UV modules installed for Phase II.

Table B-13 UV Disinfection Design Criteria

Parameter	Units	Value
Type		Horizontal Low Pressure
Number of Channels		1
Capacity, each channel	MGD	2.000
Number of Banks per Channel		2 (1 Duty, 1 Redundant)
Number of Lamps per Bank		24
Design Dose per Bank	MJ/CM ²	30

B.3.d.5 Drain Pump Station

Waste return flows from various unit processes are conveyed to the Drain Pump Station, including backwash from the filter, solids from the plate setter, the bathroom and drains from the Blower Building, and drains from the Filter/UV Building. Flow from the Drain Pump Station goes to the inlet of the lagoons. Table B-14 lists the key design parameters.

Table B-14 UV Drain Pump Station Design Criteria

Parameter	Units	Value
Type		Submersible Centrifugal
Number of Units		2 (1 Duty, 1 Redundant)
Capacity, each unit	GPM	150

B.3.d.6 Aerated Lagoons

The aerated lagoons are used primarily for storing high flows that are bypassed from the main treatment train, and for plant shutdowns (such as for maintenance and extended power outages). The blowers that provide aeration for the lagoons are located in the old Headworks Building. The Return Pump Station conveys water from the lagoons to the main process for treatment. Table B-15 lists key design criteria for the lagoons, and Table B-16 lists key design criteria for the Return Pump Station.

Table B-15 UV Aerated Lagoons Design Criteria

Parameter	Units	Value
Type		Aerated
Number of Units		2
Capacity, Cell 1	MGAL	7.700
Capacity, Cell 2	MGAL	8.300
Number of Blowers		2
Capacity, each	CFM	40

Table B-16 UV Lagoon Return Pump Station Design Criteria

Parameter	Units	Value
Type		Submersible Centrifugal
Number of Units		1
Capacity, each unit	GPM	300

B.3.e. Locations with Significant Development Serviced by Septic or Unconventional Systems within or adjacent to the Community.

The collection system that brings wastewater to the WRF does not include any significant areas that are serviced by septic systems or other facilities that could eventually be connected to the collection system and produce a significant increase to the wastewater flows entering the plant.

B.3.f. Analysis of the Average, Peak, Dry and Wet Weather Flows

B.3.f.1 Average Flows

Table B-17 provides the Average Daily Flow (ADF) measured upstream of the influent fine screen from 2015 to 2020. Influent ADF flows have remained relatively consistent over the past five years while increasing slightly, and do not exceed the 2012 plans ADF design flow of 0.9 MGD.

Table B-17, Average Daily Flow (ADF)

Parameter	Units	2015	2016	2017	2018	2019	2020
Annual Average Daily Flow	MGD	0.506	0.495	0.605	0.570	0.535	0.470
Annual Calculated Peak Daily Flow	MGD	1.655	1.619	1.978	1.864	1.749	1.535
Winter Average Daily Flow (8/1-5/15)	MGD	0.455	0.452	0.467	0.460	0.475	0.430
Winter Peak Daily Flow	MGD	0.805	0.548	0.840	1.024	0.919	0.690
Winter Calculated Peak Daily Flow	MGD	1.488	1.478	1.527	1.504	1.552	1.271
Summer Average Daily Flow (5/16-7/31)	MGD	0.698	0.650	1.120	1.029	0.842	0.650
Summer Peak Daily Flow	MGD	1.083	1.079	1.616	1.556	1.264	0.722
Summer Calculated Peak Daily Flow	MGD	2.282	2.125	3.662	3.365	2.753	2.126

B.3.f.2 Peak

The peak hourly flow (PHF) is a measure of the maximum volume of flow in any single hour-long period within a larger section of time. Although the PHF may only occur for a short time period, unit process can become overloaded and result in poor treatment or flooding. IDAPA Design Criteria uses a function to determine PHF, with the area population and ADF as arguments. The formula is $PHF = (ADF) * (\frac{18+\sqrt{P}}{4+\sqrt{P}})$, where P is the population in thousands, and ADF is the average daily flow data we have for Effluent flow at the plant. A population of 4.7 thousand is used in conjunction with the data we have for ADF between 2015 and 2020 to determine the PHF for each day in that period.

B.3.f.3 Dry and Wet Weather Flows

Teton County is a semi-arid environment, but, the flows do fluctuate over the course of the year from a wet to dry cycle. There is a regular spike in flows around beginning in May and ending in August see Figure B-22.

B.3.g. Location of any Bypasses and Overflow

The Driggs WRF has several existing bypasses that are intended for servicing various equipment. The first is located in the headworks and allows the drum screens to be bypassed to either the lagoons or the grit removal. The effluent disc filters are only operated when TSS

limits are a concern during plant operation. See Figure B-10 and Figure B-11 for design and current operations schematics.

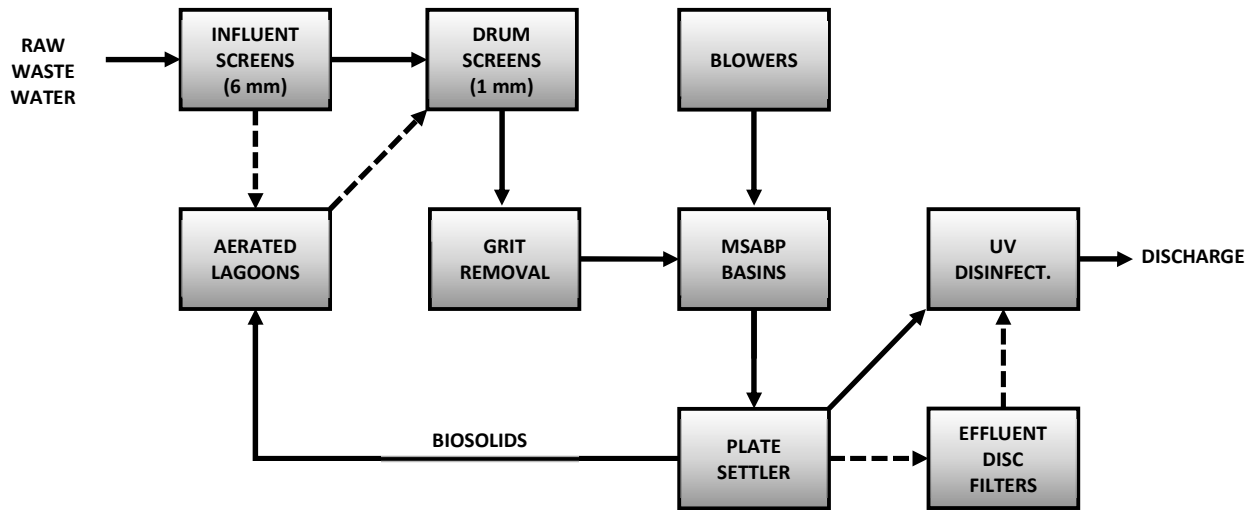


Figure B-10 Process Schematic

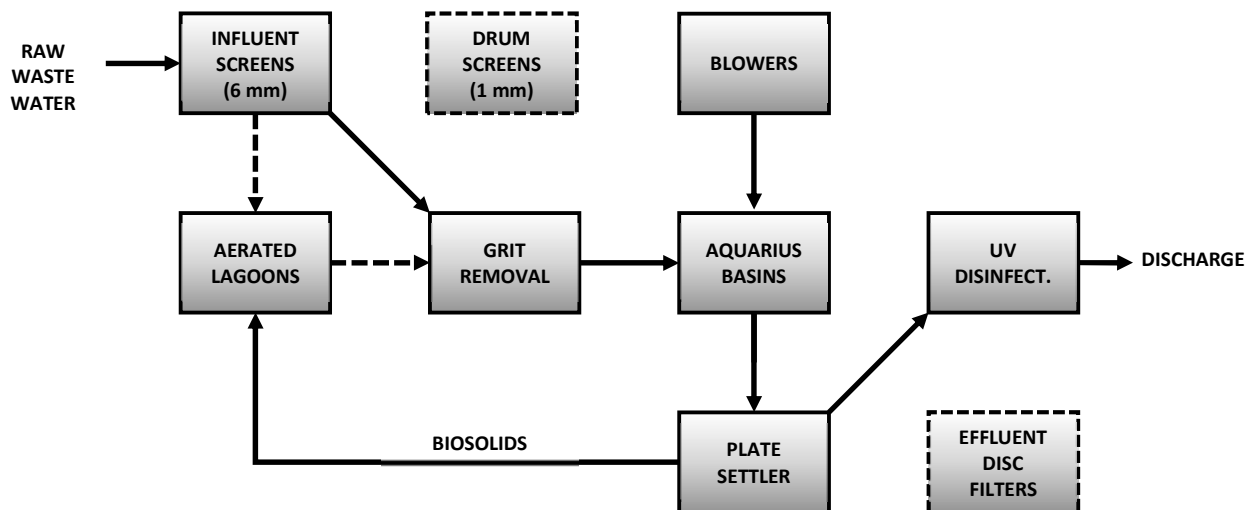


Figure B-11 Process Schematic as Currently Operated

B.3.h. The Extent of any Combined Sewer System

The collection systems for the City of Driggs does not report any combined sewer systems within the collection network.

B.3.i. Flow Reduction Programs

The City of Driggs does not currently have any flow reduction programs in place.

B.3.j. Wastewater Collection System, Conditions, Operations and Maintenance Records

The Driggs WRF has an annual maintenance and operations budget of \$1,333,973 for the 2020-2021 fiscal year.

B.4. Historic Effluent Quality

Effluent BOD, TSS and total ammonia nitrogen are measured twice a month. Effluent E. Coli is measured 5 times per month. Total residual chlorine (TRC) is required to be tested once a week, but the facility utilizes UV for disinfection. The City has provided DMRs for 2015-2020.

Figure B-12 presents effluent BOD concentrations, per sample and as the monthly average. . For the period reviewed, the weekly average and monthly average effluent BOD loads were exceeded once in July 2017 and three times in 2020. The effluent TSS concentrations were within compliance within the 2015-2020 time period.

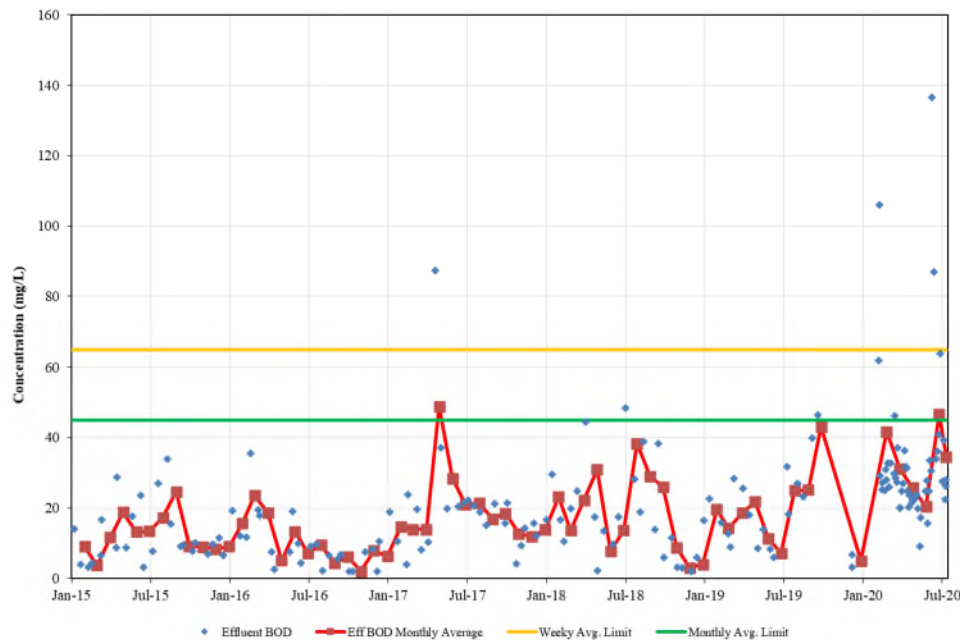


Figure B-12 Effluent BOD Concentrations (2015-2020)

Figure B-13 presents effluent BOD load, per sample and as the monthly average.

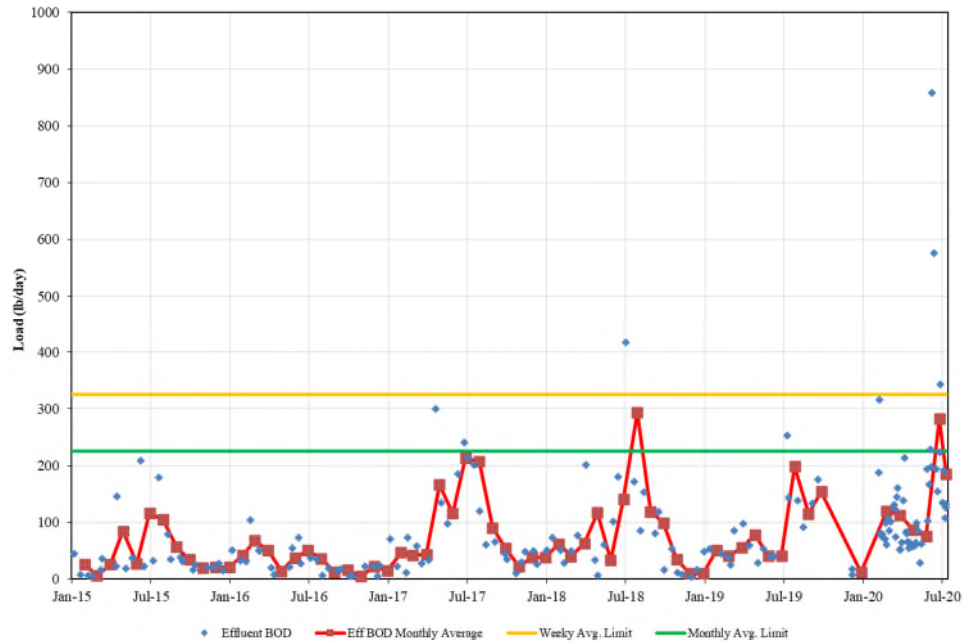


Figure B-13 Effluent BOD Load (2015-2020)

Figure B-14 presents effluent TSS concentrations, per sample and as the monthly average. For the period reviewed, the effluent TSS concentrations were within compliance.

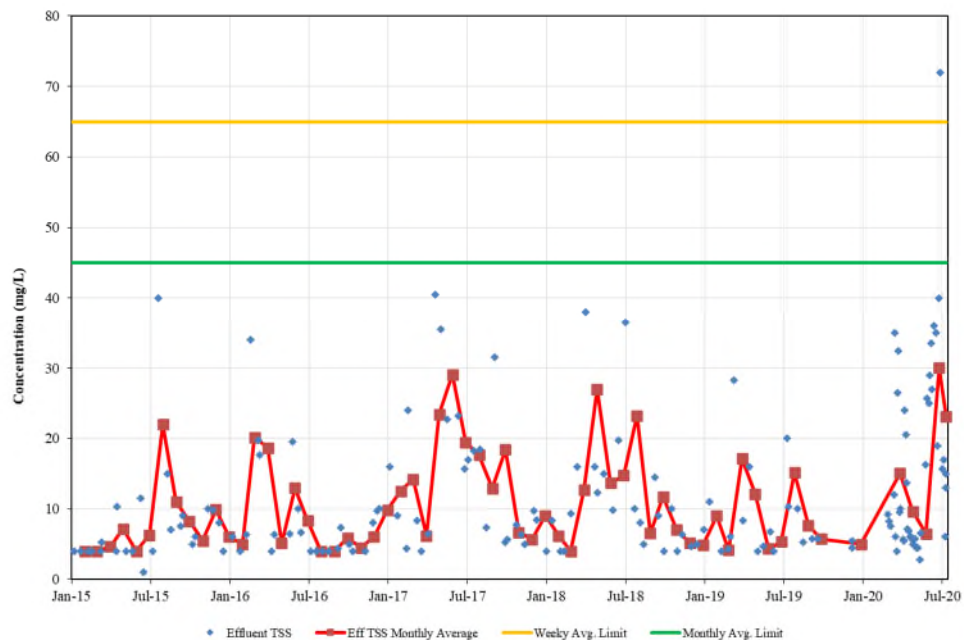


Figure B-14 Effluent TSS Concentrations (2015-2020)

Figure B-15 presents the effluent load for TSS. No exceedances occurred.

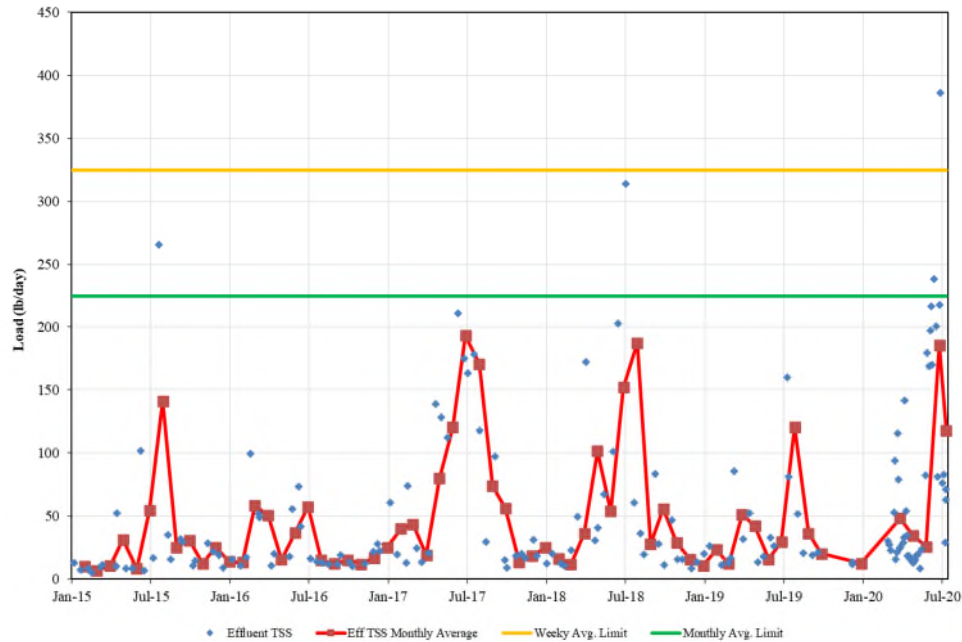


Figure B-15 Effluent TSS Loads (2015-2020)

Figure B-16 shows the percent removal for BOD and TSS. Effluent TSS was not in compliance for a 65% removal during the summer months of 2017 and 2018, and BOD removal was not in compliance with the NPDES permit in June 2020.



Figure B-16 Effluent BOD and TSS Percent Removal (2015-2018)

Figure B-17 and Figure B-18 provide the effluent total ammonia nitrogen concentrations and loads. The red lines represent the maximum monthly average concentration/load, and the black lines signify the

maximum daily concentration/load. The effluent ammonia criteria was briefly met in 2017 and was in compliance from mid August 2018 to the end of the calendar year.

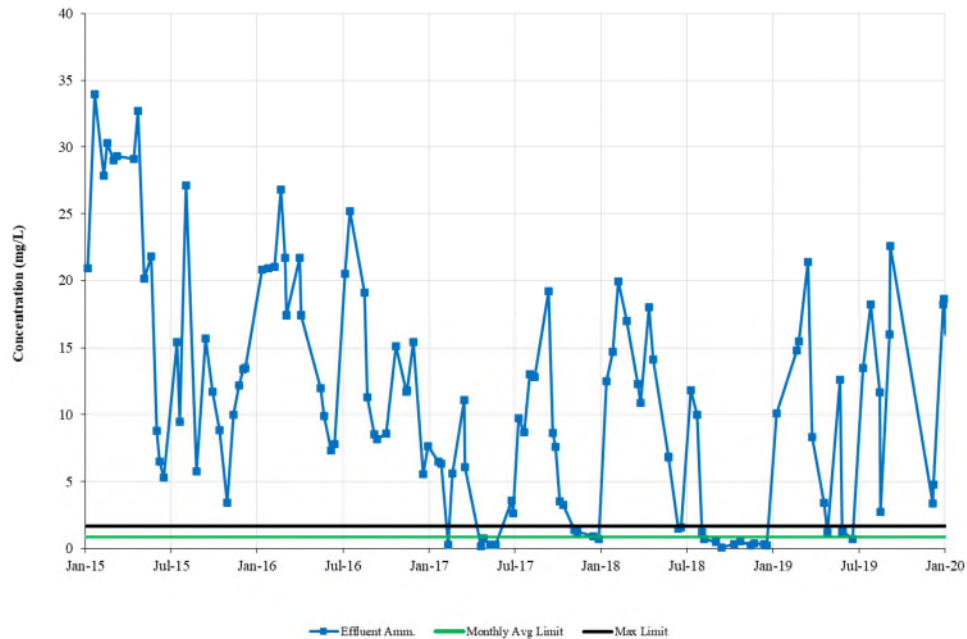


Figure B-17 Effluent Total Ammonia Nitrogen Concentrations (2015-2020)

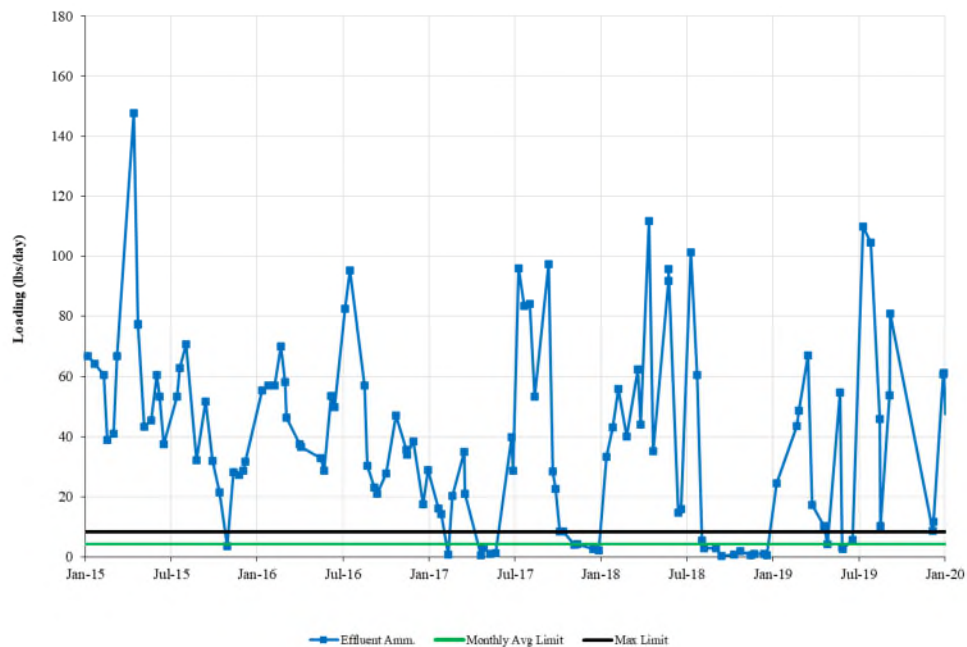


Figure B-18 Effluent Total Ammonia Nitrogen Loadings (2015-2020)

Figure B-19 provides the effluent E. coli data for the time period between 2015-2019. Monthly exceedances occurred four times during the period, while only one daily exceedance occurred.

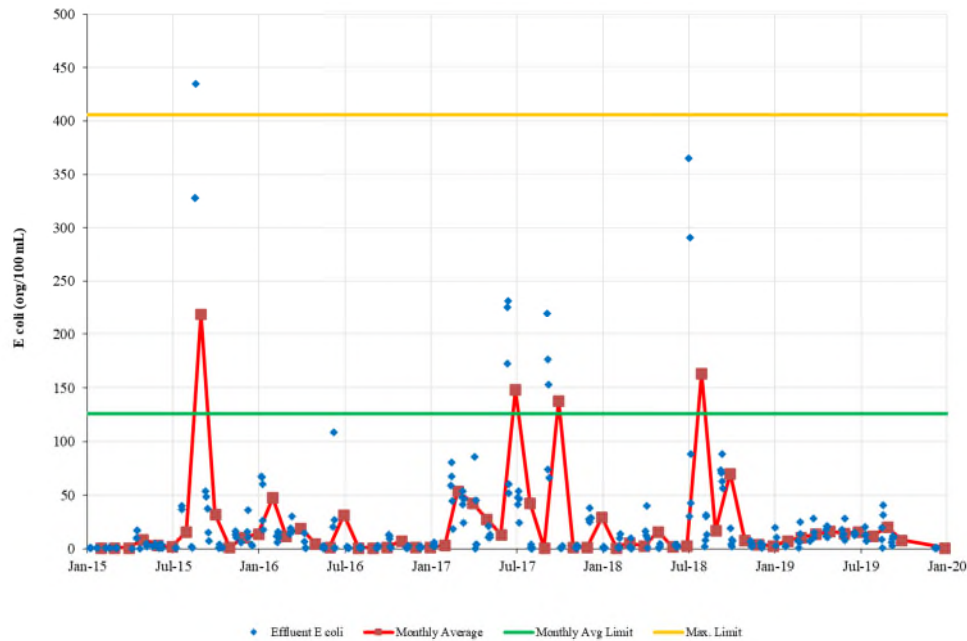


Figure B-19 Effluent E. Coli (2015-2019)

Figure B-20 and Figure B-21 provide effluent temperature and pH for the 2015-2020 time period. Temperature is important since nitrification rates decrease with lower temperatures. Effluent temperatures dropped below 5 degrees centigrade in the winter of 2018.

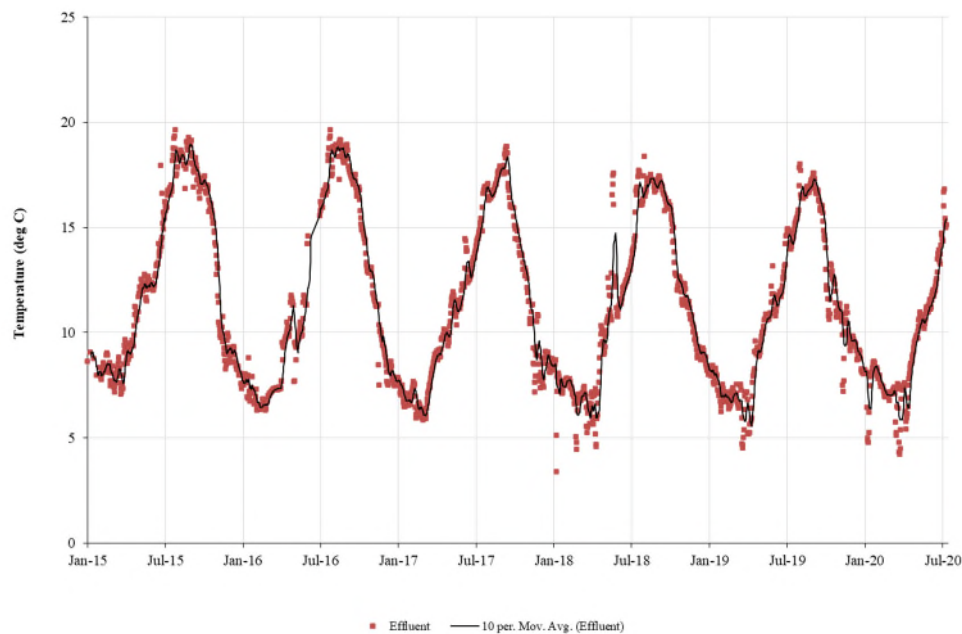


Figure B-20 Effluent Temperature (2015-2020)

The average effluent pH dropped from 8.2-8.5 to 6.7-7.5 in 2017. Operators report that the pH probe was replaced during this time period.

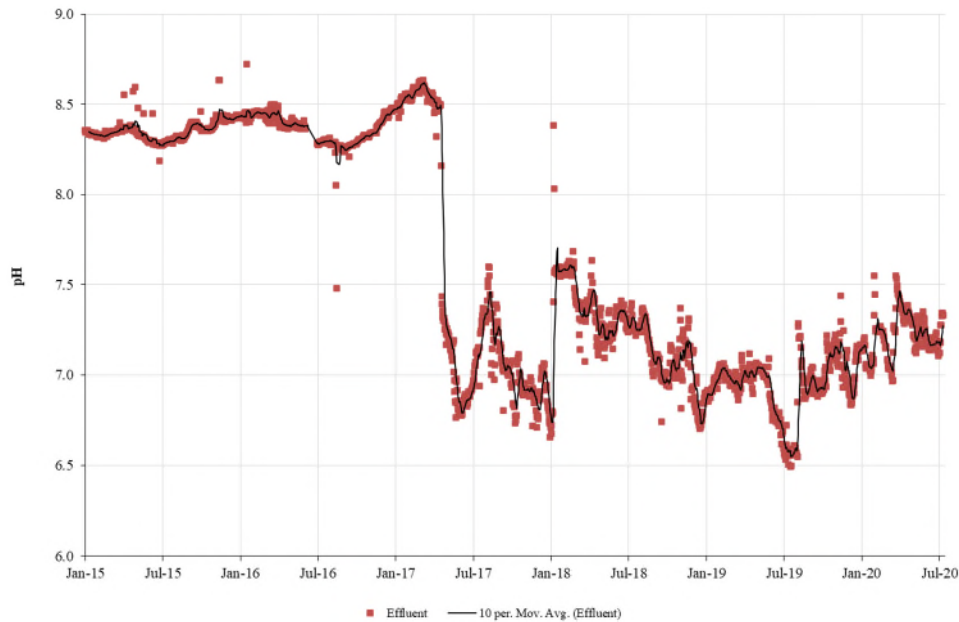


Figure B-21 Effluent pH (2015-2020)

Effluent data for the existing WRF system is presented in Table B-18.

Table B-18 Effluent Loading Data 2015-2018

Item		BOD (mg/L)	TSS (mg/L)	NH3-N (mg/L)	E. coli (org/ 100mL)
2015	Max.	34	40	34	435
	Avg.	12	8	18	27
	Min.	3	1	3	0
2016	Max.	36	34	27	109
	Avg.	10	9	15	11
	Min.	2	4	6	1
2017	Max.	87	41	19	231
	Avg.	20	15	5	42
	Min.	4	4	0	0
2018	Max.	49	38	20	365
	Avg.	18	11	7	25
	Min.	2	4	0	0
2019	Max.	43	20	17	24
	Avg.	20	9	5	11
	Min.	5	4	0.8	1
2020	Max.	424	72	31	88
	Avg.	253	15	21	45
	Min.	82	2	8	1

B.5. Infiltration and Inflow

Infiltration and inflow (I&I) is a factor of both rainfall dependent I&I (RDII) and groundwater dependent I&I (GDII). Infiltration occurs when groundwater enters the sanitary sewer system through cracks and/or

leaks in the sanitary sewer pipe and/or sanitary sewer manholes. Infiltration also occurs wherever the sanitary sewer system lies beneath the water table or where the soil above the sewer system becomes saturated, and water enters the sewer system through pipe network defects (such as through cracked pipes, leaking pipe joints, and leaking manhole section joints). Inflow is stormwater that enters into the sanitary sewer system at points of direct connection to the system, such as storm drains, roof drains, sump drains, and manhole lids.

The WRF experiences inflow and infiltration (I&I) during the summer months. This I&I is hypothesized to be a result of infiltration into the sewer conveyance system due to higher groundwater levels during the irrigation season. Figure B-6 provides the average daily flows (ADF) for the time period between 2015-2018, where the winter base flows are shown in blue and the summer high flows are colored red.

The winter base flows remained relatively consistent between 2015-2018. The summer high flows start mid-May and continue through July to August. Both the ADF and length of high flows increased substantially during the summer of 2017 and 2018. It is assumed that additional sources of I&I developed during this time period.

The City of Driggs has undertaken an I&I reduction program that has reduced the I&I by 300,000 gallons per day.

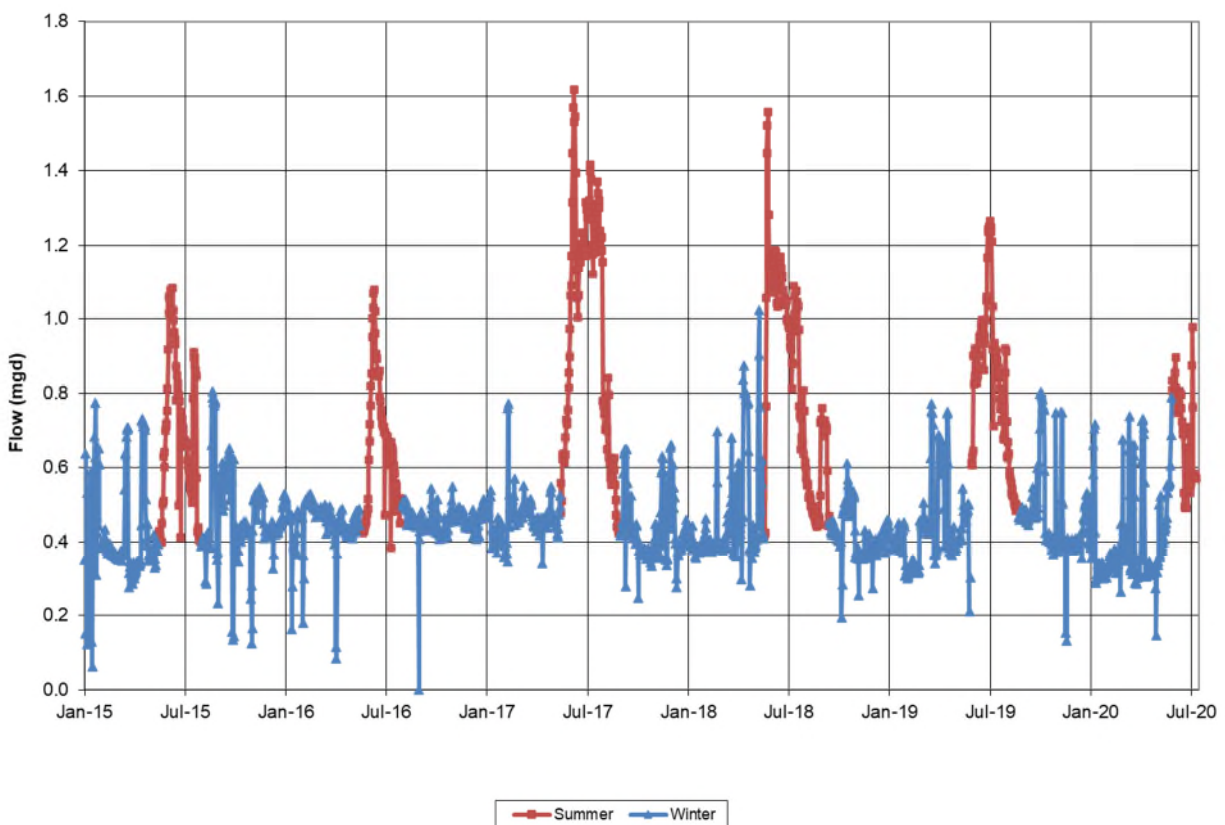


Figure B-22 Influent and Effluent Average Daily Flows (2015-2018)

Table B-19 provides seasonal flow rate statistics for the time period between 2015-2018. The average ADF remained consistent at a flow of 0.46 MGD during this time period. Summer flow rates have increased across the board for average daily flow, maximum daily flow, minimum daily flow, and length

of the high flow season. The high season data is attributed to a seasonal population increase during the months of May through September.

Table B-19 Seasonal Flow Data 2015-2018

Item		Seasonal Average Daily Flow (MGD)					
		2015	2016	2017	2018	2019	2020
Summer	Max.	1.083	1.079	1.616	1.556	1.264	0.978
	Avg.	0.698	0.650	1.120	1.029	0.842	0.650
	Min.	0.286	0.383	0.649	0.410	0.211	0.375
Winter	Max.	0.805	0.548	0.840	1.024	0.919	0.738
	Avg.	0.455	0.452	0.467	0.460	0.475	0.389
	Min.	0.062	0.084	0.246	0.195	0.131	0.147

Notes: Summer flow, mid-May through August

Average daily flows are roughly twice as large during the summer compared to winter, in addition the summers had significantly higher maximum daily flows. During the summers of 2017 and 2018 a large increase in I&I occurred compared to the two previous years.

As of 2020 the City of Driggs has undertaken an initiative to reduce the infiltration and inflow, and based on current data the initiative has reduced I & I by 300,000 gallons per day during the summer months.

B.6. Clean Water Act Violations

The Driggs WRF has recorded multiple violations from 2016 through 2020 a compilation of the recorded violations is included in Appendix C.

B.6.a. Compliance with Discharge Permit and Regulations

The following sections are taken directly from Driggs' current National Pollutant Discharge Elimination System (NPDES) Permit No. ID0020141 issued on January 1, 2011. In addition to the parameters provided below, the effluent pH shall remain within the range of 6.0-9.0 at all times. This permit is effective for a duration of five (5) years and expired on December 31, 2015 and is currently in administrative extension.

Table B-20 Driggs Discharge Permit Effluent Limitations

BOD			TSS		
30-day Avg. (mg/L)	7-day Avg. (mg/L)	Minimum Removal (%)	30-day Avg. (mg/L)	7-day Avg. (mg/L)	Minimum Removal (%)
45	65	65	45	65	65
E coli		TRC		NH3-N	
30-day Avg. (No./100 mL)	Daily Max. (No./100 mL)	30-day Avg. (µg/L)	Daily Max. (µg/L)	30-day Avg. (mg/L)	Daily Max. (mg/L)
126	406	12.4	17.8	0.84	1.68

In addition to the effluent limitations described in the permit, there are also self-monitoring and reporting requirements for the effluent. These requirements are presented in the tables below.

Table B-21 Self Monitoring and Reporting Requirements

Parameter	Frequency	Sample Type	Units
Influent or Effluent Flow	Continuous	Recorder	MGD
Temperature	Weekly	Grab	°C
BOD5	2 / Month	Grab	mg/L
TSS	2 / Month	Grab	mg/L
E coli	5 / Month	Grab	No./100mL
pH	Weekly	Grab	
Total Residual Chlorine	Weekly	Grab	µg/L
Total Ammonia-N	2 / Month	Grab	mg/L
Alkalinity	2 / Year	Grab	mg CaCO3/L
Dissolved Oxygen	2 / Year	Grab	mg/L
Nitrate plus Nitrite	2 / Year	Grab	mg/L
Oil & Grease	2 / Year	Grab	mg/L
Total Dissolved Solids	2 / Year	Grab	mg/L
Total Kjeldahl Nitrogen	2 / Year	Grab	mg/L
Total Phosphorus-P	2 / Year	Grab	mg/L

The Total Ammonia Nitrogen limit in the permit is the main parameter of concern for this report.

B.6.b. Surface Water Monitoring Requirements

The 2011 permit requires the establishment of two additional surface water monitoring sites located upstream and downstream of the facility discharge to the unnamed stream. Surface water monitoring includes the following parameters in Table B-22.

Table B-22 Surface Water Monitoring Requirements

Location	Parameter	Frequency	Parameter	Frequency
Upstream of discharge*	DO (mg/L)	Quarterly	Flow rate	Monthly
Downstream of discharge*	DO (mg/L)	Quarterly	-	-

* Surface water monitoring results shall be submitted to EPA and IDEQ upon permit renewal

B.6.c. Biosolids (Sludge) Disposal Requirements

Because the treatment process was thought to not discharge solids at the time of design, there is no regular sludge processing or removal. However, the MSABP manufacturer no longer claims that the process does not discharge solids and estimates a yield of 40% of influent BOD. Inorganic materials associated with influent screenings and grit are landfilled, and solids associated with the effluent filtration are recycled to the lagoons. Therefore, requirements of 40 CFR 503 do not apply unless or until sludge is removed from the bottom of the lagoons and used or disposed of in some way. Section IV., K. of the current discharge permit allows for the reopening of the permit for the disposal of sludge and/or biosolids.

B.6.d. Review of Data Related to Nitrifications

This section reviews data associated with nitrification to explore possible reasons for the inability of the process to nitrify.

B.6.d.1 Heavy Metal Inhibition and Toxicity

Elevated concentrations of dissolved heavy metals can inhibit the metabolism of the microbiological community. These metals can also accumulate within biofilms and sludge to produce toxic conditions if the solids are not managed properly.

In general, the nitrifying bacteria tend to be more sensitive to heavy metal inhibition and toxicity compared to the heterotrophic bacteria. Table B-23 and Table B-24 provide inhibition concentration ranges for various heavy metals as suggested by Appendix G of USEPA's 2004 document Local Limits Guidance. Table B-23 provides concentration ranges for the inhibition of heterotrophic bacteria, and Table B-24 provides concentration ranges for the inhibition of nitrifying bacteria. As can be seen in the following tables, the nitrifying bacteria are more sensitive to the presence of heavy metals.

Table B-23 Heterotrophic Bacteria Inhibition Concentrations

Heterotroph Inhibition (mg/L)		
Element	Low	High
As	-	0.1
Cd	1	10
Cr ^{Total}	1	100
Cu	-	1
Pb	1	100
Hg	0.1	1
Ni	1	5
Zn	0.3	10

Note: Appendix G, USEPA 2004

Table B-24 Nitrifying Bacteria Inhibition Concentrations

Nitrifier Inhibition (mg/L)		
Element	Low	High
As	-	1.5
Cd	-	5.2
Cr ^{Total}	0.25	100
Cu	0.05	0.48
Pb	-	0.5
Hg	-	-
Ni	0.25	5
Zn	0.08	0.5

Note: Appendix G, USEPA 2004

The presence of heavy metals in the influent and within the sludge has been investigated on multiple occasions in the efforts to identify inhibitory compounds that may be curtailing nitrification. Wastewater was initially tested in August of 2018 for three metals at various stages in the treatment process Table B-25. The ‘EPA High’ column in Table B-25 provides the high concentration for nitrifier inhibition for direct comparison. Both copper and zinc were measured in concentrations higher than the lower level EPA suggested inhibition concentrations in three instances (**bold values**). Copper (Cu) concentrations were fairly consistent from influent to the plate settler with the exception of an elevated concentration in Stage 6 West. The decrease in the copper concentration in the effluent suggests that the copper is associated with total suspended solids following treatment. Zinc (Zn) concentrations decreased through the treatment process, which suggests that the facility receives variable concentrations of zinc, or it is accumulating within the biofilm in the treatment process or is concentrated in the lagoons and reintroduced when flow is directed through the aerated lagoons prior to the MSABP.

Table B-25 Nitrifying Bacteria Inhibition Concentration

Wastewater, 8-28-2014 (mg/L)								
Element	EPA High	Influent	Splitter Box	Stage 1, W	Stage 6, W	Stage 12, W	Plate Settler	Effluent
Cu	0.48	0.039	0.039	0.032	0.073	0.021	0.022	<0.005
Pb	0.5	0.03	<0.01	<0.01	<0.01	0.025	<0.01	<0.01
Zn	0.5	0.095	0.085	0.068	0.042	0.027	0.03	0.022

In response to the potential inhibitory conditions associated with heavy metals, the biofilms present at various stages of the treatment process were sampled and analyzed for heavy metals. Table B-26 provides the heavy metal concentrations measured in the biofilms in September 2014.

Prior to reviewing Table B-26, a quick discussion on parameter units is required. The units provided in the laboratory documentation were reported as mg/L, which is the appropriate units for liquid samples, not solid samples. Solid samples are typically reported as mg/kg, where kg is in relation to dry mass. Method 200.7, utilized in the 2014 sampling event, requires solid samples to have units of mg/kg per section 12.1. The units of mg/L and mg/kg both represent a value of 1/1,000,000 since one liter of water weighs one kilogram, by definition. It was assumed that the laboratory performed the correct solids analysis preparation for heavy metal concentrations and did not utilize the correct units

(mg/kg). The original units of mg/L, presented in Table B-26, were maintained throughout this document to ensure there is no future confusion if the original laboratory documentation is reviewed.

The bold and red values indicate that the concentrations are above the low and high inhibitory concentrations as suggested by the USEPA, respectively. Similar to the water samples collected the previous month, both copper and zinc were found in potentially inhibitory concentrations. Stage 3 biofilm had elevated copper and zinc concentrations that are considered inhibitory and possibly toxic. The large increase in metal concentrations of copper, lead, and zinc in Stage 3 is peculiar; more interestingly is that the concentrations of copper and zinc were higher in Stage 12 than in Stage 3. This suggests heavy metal accumulation within the biofilms responsible for nitrification.

Table B-26 Teton Valley WRF Biofilm Metal Concentrations

Media Scrapings, 9-17-2014 (mg/L)					
Element	EPA High	Stage 1	Stage 3	Stage 6	Stage 12
CD	5.2	<0.003	<0.003	<0.003	<0.003
Cr ^{Total}	100	<0.02	<0.02	<0.02	<0.02
Cu	0.48	0.086	0.54	0.15	0.15
Pb	0.5	<0.01	0.029	<0.01	<0.01
Zn	0.5	0.3	1.6	0.4	0.32

Water and biofilm samples were again sampled in February of 2019 due to challenges associated with the Teton Valley WRF not meeting the discharge permit for effluent total ammonia. Table B-27 provides the heavy metal concentrations measured in the wastewater in Stages 1, 3, 6 and 12. Both copper and zinc were measured in potentially inhibitory concentrations from Stage 3 and downstream. Once again, Stage 3 showed a large increase in copper, lead, and zinc concentrations, with both copper and zinc present in potentially toxic concentrations. Both copper and zinc were present in higher concentrations in Stage 12 as compared to Stage 1, suggesting bioaccumulation.

Table B-27 Teton Valley WRF Wastewater Metal Concentrations

Wastewater, 2-23-2019 (mg/L)					
Element	EPA High	Stage 1	Stage 3	Stage 6	Stage 12
CD	5.2	<0.003	<0.003	<0.003	<0.003
Cr ^{Total}	100	<0.004	0.055	<0.004	<0.004
Cu	0.48	0.02	2.98	0.434	0.206
Pb	0.5	0.095	0.26	0.093	0.063
Zn	0.5	0.0687	5.21	0.34	0.182

The dataset above provided in Table B-27 is complicated by three unknowns described below:

1. Missing influent and effluent data
 - a. Comparing influent and effluent data can aid in confirming bioaccumulation
 - i. Higher influent and lower effluent concentrations
 - ii. A decrease in dissolved metals through the process (see item 2.)
 - b. and potential of past slug loads
 - i. more metals in the effluent than in the influent
2. Missing dissolved metal data

- a. See item 1.
3. Missing total suspended solids (TSS) data
 - a. TSS data would allow back calculation of dissolved vs. bioaccumulated metals
 - b. TSS data is also required to ensure the proper sample preparation protocol is utilized (water versus solids)

Heavy metals, toxic organics, and a variety of other parameters were again tested on 2-27-2019 to compare the east and west trains Table B-28. These treatment trains have historically behaved differently with the one basin providing better treatment. Similar to previous sampling events, both copper and zinc were measured in concentrations known to be inhibitory to nitrification. The copper and zinc concentrations were the highest measured to date in 2019, and suggest high influent concentrations, slug loads, and/or the rerelease of metals associated with bioaccumulation and eventual hydrolysis.

Table B-28 Teton Valley WRF Wastewater Metal Concentrations

Wastewater, 2-27-2019 (mg/L)						
Element	EPA Low	EPA High	Stage 3, E	Stage 7, E	Stage 3, W	Stage 7, W
Al	NA	NA	82	4.55	68.6	119
As	-	0.1	0.0724	<0.0209	0.0615	0.146
Ba	NA	NA	3.1	0.226	3.25	4.86
B	NA	NA	0.433	<0.0433	0.516	0.56
Cd	-	5.2	0.0199	<0.0033	0.0226	0.0336
Ca	NA	NA	588	28.7	588	776
Cr ^{Total}	0.25	100	0.307	0.0212	0.295	0.49
Cu	0.05	0.48	5.37	0.412	4.02	8.74
Fe	NA	NA	78.2	4.04	73.6	105
Pb	-	0.5	0.178	0.0163	0.169	0.295
Mg	NA	NA	84.5	5.11	95.2	118
Mn	NA	NA	1.37	0.109	1.18	2.25
Hg	-	0.1	0.015	0.011	0.03	0.01
Ni	1.00	5.00	0.187	0.0149	0.182	0.297
Ag	NA	0.25	0.137	<0.0083	0.0968	0.12
Zn	0.08	0.50	13.5	1.22	14.5	23.8
m&p Cresol	NA	NA	9.96	<2.750	7.35	9.7
NH ₄ -N	NA	480	119	85.2	65.6	132

In addition to copper and zinc, arsenic and m&p Cresol were measured in potentially inhibitory concentrations during the 2-27-2019 sampling event. The concentration of the metals cadmium, total chromium, copper, lead, and zinc have all increased within the wastewater treatment facility. This may be due to the bioaccumulation of metals present in the water samples as particulate matter (TSS), or may have been a result of higher influent concentrations.

There were surprisingly high concentrations of ammonia nitrogen within the basins, suggesting an accumulation of organic material that is undergoing anaerobic decay. Assuming a TKN of 35 mg/L, significant amounts of organic matter are decaying within the basins to produce the dissolved ammonium concentrations found in Cells 3 and 7, east and west. The elevated ammonia nitrogen

concentrations suggest there are excessive organics decaying within the basins. The accumulation of solids would result in decreased influent ammonia removal due to the recycling of nutrients, increased aeration loads to oxidize recycled BOD and ammonia, and potentially decreased hydraulic retention times due to the solids displacing the working volume of the cells.

Future heavy metal sampling should focus on separating and tracking the dissolved and particulate metals in addition to total metals. Testing suggestions are provided below:

Heavy metal testing suggestions:

- Confirm the lab is utilizing the proper solids analyses (mg/L versus mg/kg)
- Measure %TS and %VS for solid samples
 - %TS is a required measurement for solid sample calculations (mg/kg)
- Measure TSS and VSS in wastewater samples
 - TSS is required to calculate particulate heavy metals (i.e. MLSS associated)
 - It would be useful to subtract the heavy metals associated with TSS (solids)
- Measure dissolved heavy metals
 - Are the metals dissolved, or are they associated with influent solids?

The protocol above allows the following relationship to be calculated.

Total metals (mg/L) – dissolved metals (mg/L) = particulate metals (mg/L)

Particulate metals (mg/L) / {TSS (mg/L) * 1,000,000} = mg metal/kg dry solids

By measuring total and dissolved metals, and back calculating particulate metals in the wastewater; a proper mass balance on the metals can be accomplished where bioaccumulation and/or release can be identified.

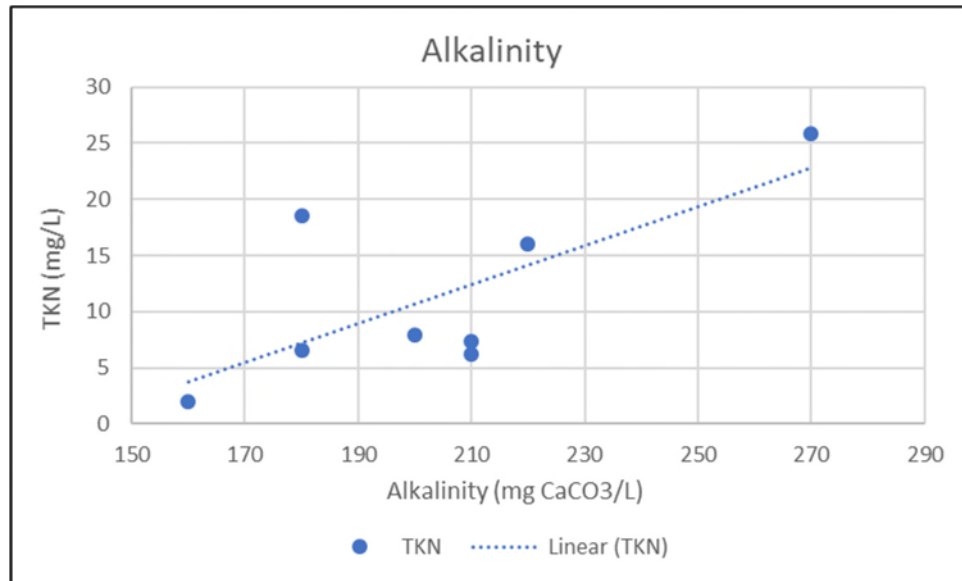
In summary, the presence of elevated total metals have been identified in the wastewater at the Teton Valley WRF during sampling events in 2014 and 2019. The concentrations of copper and zinc are above the threshold associated with nitrification inhibition. It is suggested that future sampling events differentiate between dissolved and particulate heavy metals by filtering the samples. This will allow identification of potential historic slug loads and/or a consistent heavy metal load to the Teton Valley WRF.

B.6.d.2 Alkalinity

Nitrification is a biological pathway performed by two distinct groups of autotrophic bacteria. Autotrophs utilize inorganic carbon, measured as alkalinity, as their carbon source. Complete nitrification requires ~7.1 g CaCO₃/g NH₄-N. Therefore, 30 mg/L of ammonia nitrogen would require 213 mg CaCO₃/L for nitrification. Table B-29 provides effluent alkalinity, nitrate + nitrite, and TKN, and Figure B-23 provides the relationship between biannual effluent alkalinity and TKN measurements. There was sufficient alkalinity available during all sampling events to perform complete nitrification of effluent ammonia concentrations. Therefore, insufficient alkalinity is not assumed to be a problem.

Table B-29 Biannual Effluent Sampling

Biannual Effluent Sampling			
Date	Alkalinity (mg CaCO ₃ /L)	NO ₃ + NO ₂ (mg-N/L)	TKN (mg-N/L)
6/1/2015	200	3.1	7.9
10/1/2015	180	12.2	18.5
3/1/2016	270	2.4	25.9
12/1/2016	220	7.8	16
6/1/2017	210	3.5	7.4
12/1/2017	210	9.9	6.2
6/1/2018	180	5.4	6.6
12/1/2018	160	19.8	2

**Figure B-23 Relationship between Effluent Alkalinity and TKN****B.6.d.3 Temperature**

Nitrification is sensitive to low water temperatures due to a decrease in metabolism of the microbes. If the system was in a steady state operation, then it would be expected to see an increase in effluent ammonia at lower temperatures. Figure B-24 and Figure B-25 provide the relationships between effluent temperature and effluent ammonia concentrations and loadings. While the concentration has slight trend towards lower at warmer temperatures, we would expect to see effluent ammonia concentrations consistently below 1 mg/L at warmer temperatures.

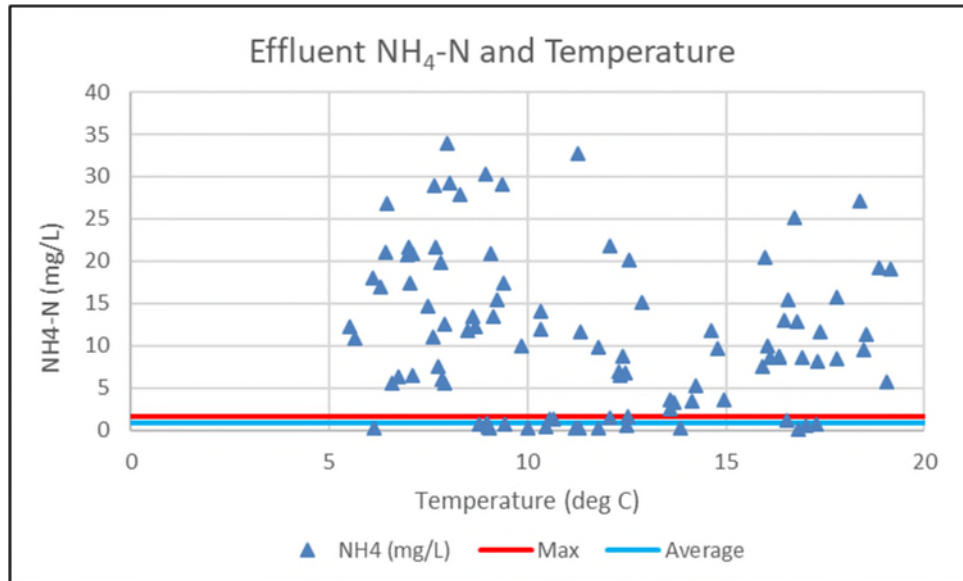


Figure B-24 Temperature and Effluent Ammonia (mg/L)

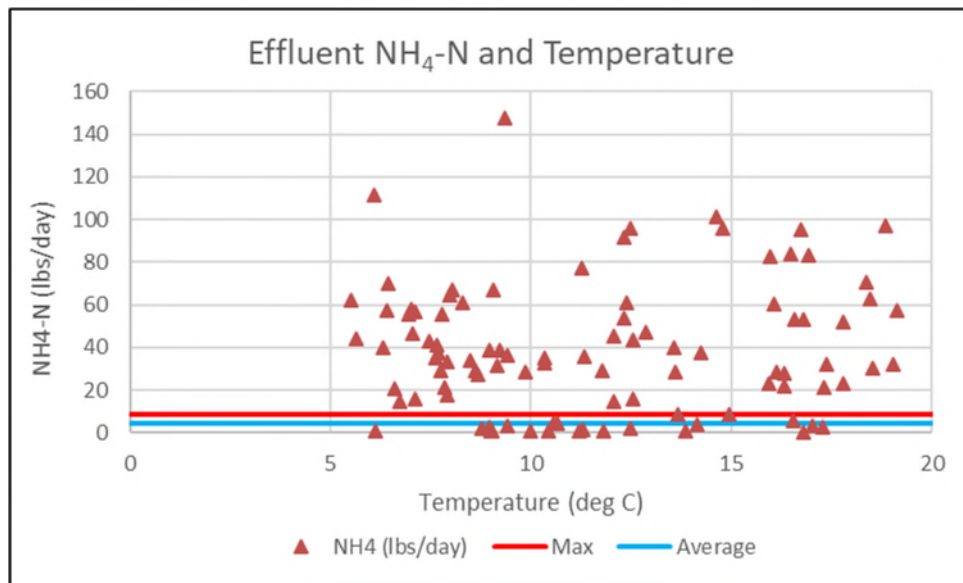


Figure B-25 Temperature and Effluent Ammonia (lbs/day)

B.6.d.1 Hydraulic Retention Time (HRT)

The two basin trains have a combined volume of 906,400 gallons and the design hydraulic retention time (HRT) is 24 hours. Figure B-26 provides the calculated treatment HRT based on effluent DMR data. The WRF maintains an HRT longer than 24 hours (green line), except during the elevated flows associated with groundwater infiltration. There is a large range of HRT values ranging from 13 hours to 80 hours during the most recent years.

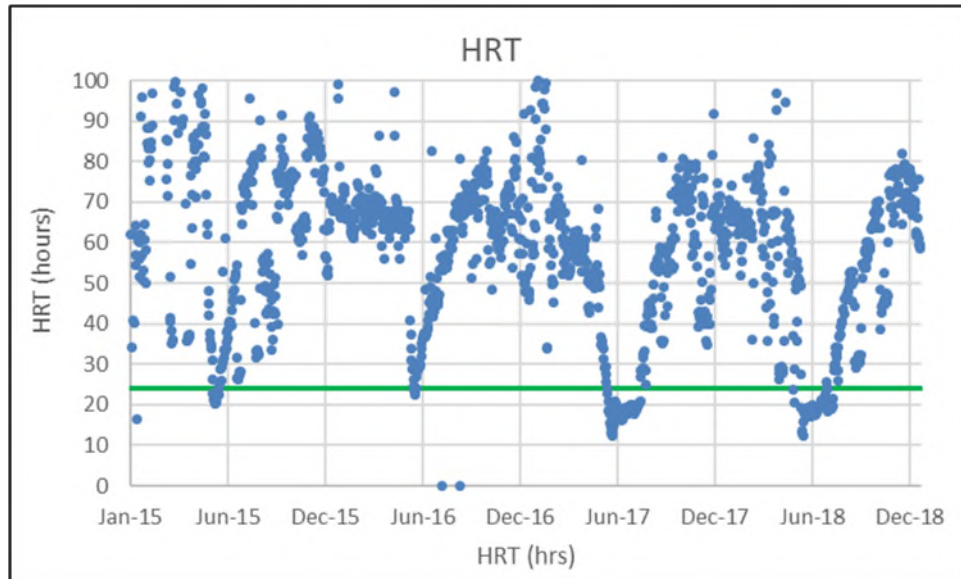
**Figure B-26 Observed HRT**

Table B-30 provides the minimum and average HRTs for the time period between 2015-2018. Both the minimum and average HRT have decreased over the four-year time period. This is a result of the excessive summertime inflow and infiltration (I&I).

Table B-30 Hydraulic Retention Time (2015-2018)

Hydraulic Retention Time (Hours)		
	Min	Average
2015	16.6	125
2016	22.4	68
2017	12.4	53
2018	12.5	52

Figure B-27 and Figure B-28 provide the relationships between HRT and effluent ammonia concentrations and loadings. It was expected to see a reduction in both effluent ammonia concentrations and loadings with increased HRTs. As can be seen in the figures below, there is no obvious relationship between HRT and effluent ammonia. The effluent ammonia loads do appear to stabilize at an HRT greater than 50 hours; but this trend is not statistically significant, does not meet the effluent discharge permit, and highlights the observation that other WRFs can achieve complete nitrification of municipal wastewater at much lower HRTs.

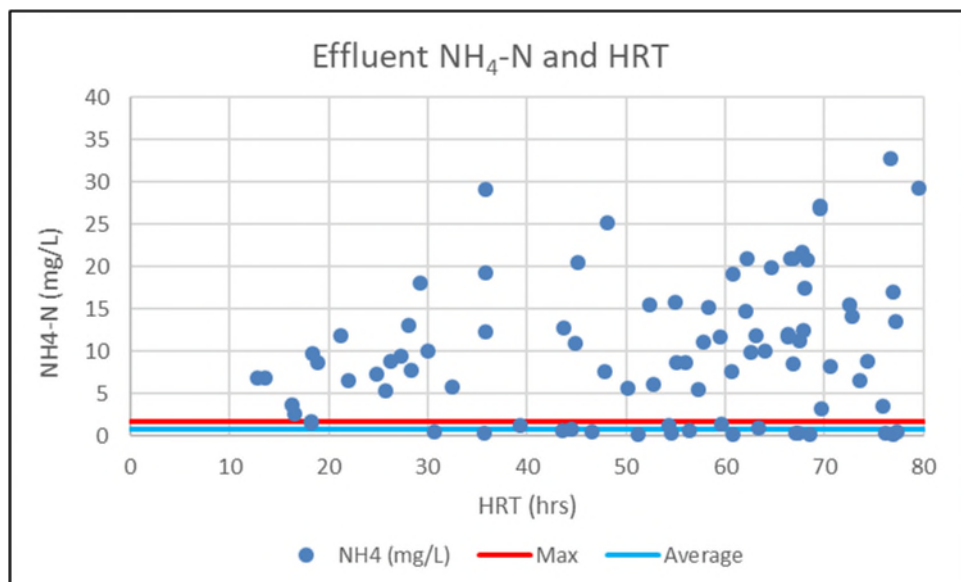


Figure B-27 HRT and Effluent NH₄-N (mg/L)

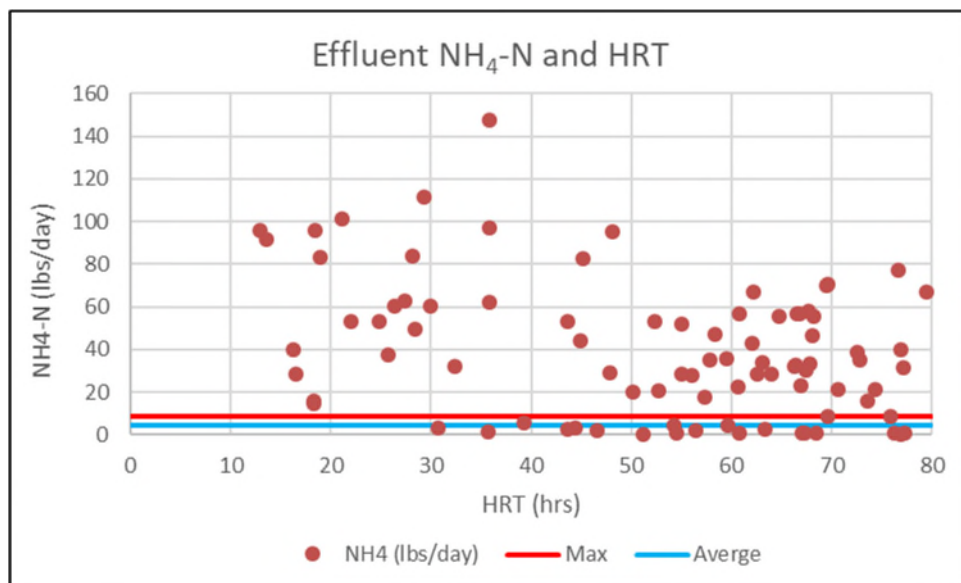


Figure B-28 HRT and Effluent NH₄-N (lbs/day)

C. FUTURE CONDITIONS

This chapter provides information regarding future conditions for Driggs for a 20-year planning window ending in 2040. Future population, projected wastewater flows, and anticipated design conditions are presented.

C.1. Future Growth 20-year Projection

Table C-1 provides the population and growth rates for the two communities during this time period. The population in unincorporated Teton County served by the WRF is estimated based on an historical average of 15% of total connections.

Table C-1 Historical Population and Growth Rates

Year	Driggs	Victor	Unincorp. Teton County Served by WRF	Total	Driggs Annual Avg Growth Rate	Victor Annual Avg Growth Rate	Total Annual Avg Growth Rate
1990	846	292		1,138			
2000	1,100	840		1,940	2.7%	11.1%	5.5%
2010	1,660	1,928	538	4,126	4.2%	8.7%	7.8%
2011	1,641	1,912	533	4,086	-1.1%	-0.8%	-1.0%
2012	1,632	1,911	531	4,074	-0.5%	-0.1%	-0.3%
2013	1,674	1,908	537	4,119	2.6%	-0.2%	1.1%
2014	1,676	1,957	545	4,178	0.1%	2.6%	1.4%
2015	1,718	2,004	558	4,280	2.5%	2.4%	2.4%
2016	1,783	2,091	581	4,455	3.8%	4.3%	4.1%
2017	1,814	2,155	595	4,564	1.7%	3.1%	2.5%
2018	1,814	2,260	611	4,685	0.0%	4.9%	2.6%
2019	1,805	2,216	603	4,624	-0.5%	-1.9%	-1.3%
2020	1,867	2,979	737	5,573	3.4%	34.4%	22.2%

Figure C-1 and Table C-2 provides the combined population growth projections through 2040 for the combined total service population at growth rates between 2%-6%. For comparison, the 2007 Master Plan used growth rates between 5% and 8% that resulted in a projected population of about 10,000 for the combined service population in 2020; the 2010 update used a 4% growth rate based on data provided by the city planners and current construction within the city. This data resulted in a projected population of about 5,600 for 2020 that accurately reflects the current population 5,573 per the 2020 census records.

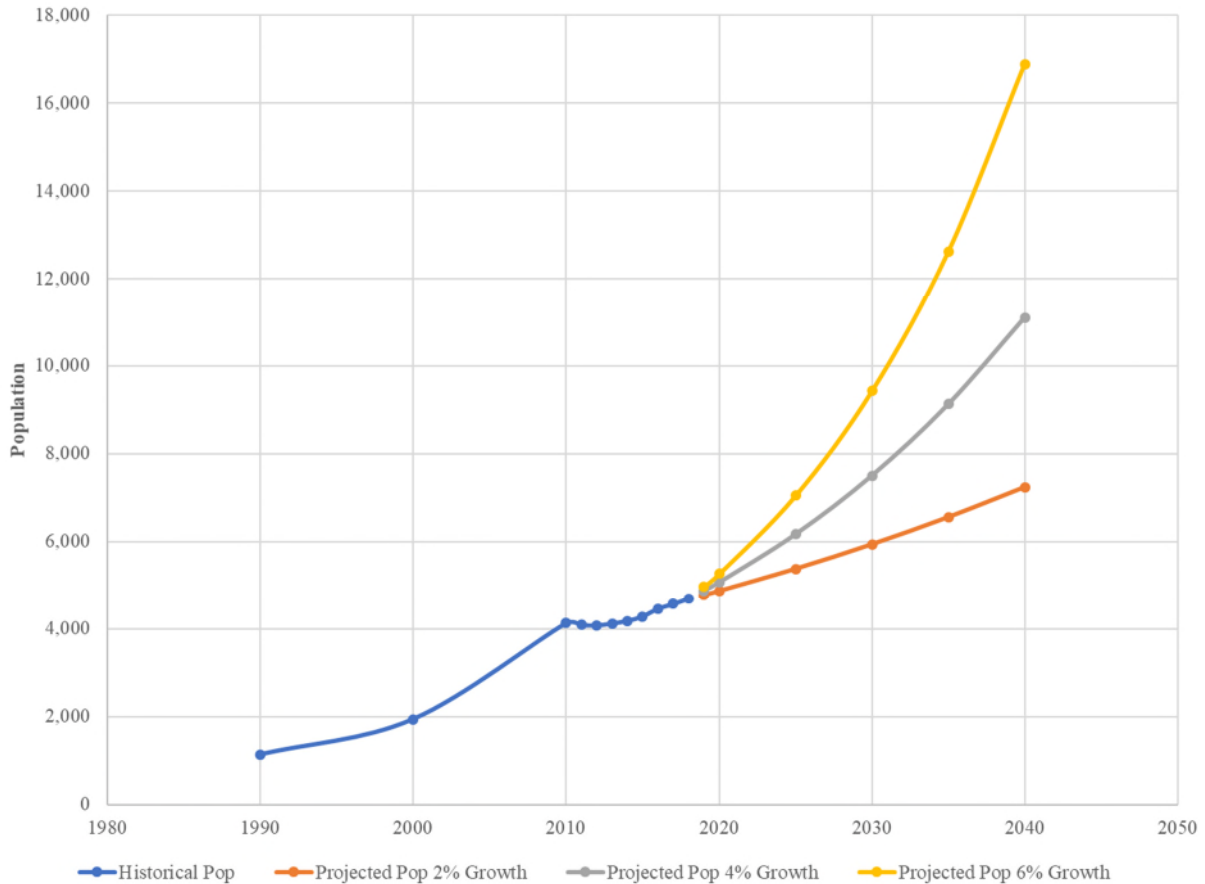


Figure C-1 Population Growth Estimates 2020-2040

Table C-2 Population Growth Estimates 2020-2040

Year	Projected Total Population		
	2.0%	4.0%	6.0%
	Growth Rate	Growth Rate	Growth Rate
2025	5,382	6,809	7,045
2030	5,942	8,320	9,427
2035	6,560	10,164	12,616
2040	7,243	12,416	16,883

The City has elected to continue to use a 4% growth rate for future population projections.

C.2. Projected Reserve Flow Capacity

Based on the 2012 design of the plant, the facility can receive an ADF of 0.9 MGD. The 2040 projections shown in Table C-5 and the data provided in Table B-19 for the existing flows show that the facility exceeds its design capacity for a quarter of each year and that the situation will continue to decline with an ever-increasing deterioration to treatment quality.

C.3. User Charges and Operations and Maintenance Budget**Table C-3 Operations and Maintenance Budget 2020-2021**

2021 Collections Operations and Maintenance Budget		
Collections	WRF	Total
\$434,010	\$899,963	\$1,333,973

Table C-4 Wastewater Fee Rates

Wastewater Fees	
Meter Size	\$ Amount
0.75 Inch	\$41.20
1 Inch	\$41.20
1.5 Inch	\$90.45
2 Inch	\$143.26
3 Inch	\$306.20
4 Inch	\$539.35
6 Inch	\$1,236.02
Sewer Usage Flow Rates	
Per 1,000 Gallons	\$2.77
Outside City Limit Multiplier	
	1.5

C.4. City and County Land Use Plans**C.4.a. Existing and Future Wastewater Treatment**

The existing WRF covers approximately 12 acres with two thirds of the land use dedicated to the aerated lagoons. It is anticipated that any expansion to the facility would utilize a portion of the existing lagoons for the expansion instead of acquiring additional land.

C.4.b. Existing and Future Collection Systems

Overall, the existing collection system needs servicing and replacement. The system has areas that are showing signs of damage, wear and aging that permit infiltration and inflow to impact the flows and concentrations entering the facility regularly and significantly. The City has already adopted measures to mitigate the I&I but as the system continues to age the problems may persist.

C.5. Future Projections of Average Daily Base Flow

Utilizing a population growth rate of 4% and the peaking factors presented in previously, the design average daily flow (ADF), maximum daily flow (MDF), peak hourly flow (PHF), and maximum peak hourly flow (PHF) are presented in Table C-5 and **Error! Reference source not found..** The winter ADF flow is based on the projected population times the unit flow of 100 GAL/DAY/CAP (see B.3.a.2 Flow Peaking Factors).

Table C-5 Projected Influent Flows for 2040

Parameter	Units	Peaking Factor	Value
Winter Average Day Flow	MGD		1.11
Winter Max Day Flow	MGD	2.0	2.22
Summer Max Month Flow	MGD		3.00
Summer Max Day Flow	MGD	2.5	2.80
Summer Peak Hour Flow	MGD	2.85	3.17

The projected curves for each condition are based on the estimated past population, and future population based on the growth rate presented above. The unit flow (for the winter average day flow condition) and the peaking factors (for the winter maximum day flow, summer maximum day flow, and peak hours flow conditions) were adjusted to make the projected curve fit with the historical data.

Influent loading to the WRF will be as listed in Table C-6. Winter Average Daily Flow and Summer Peak Monthly Flow information are presented since it is recommended that the WRF use flow equalization for all alternatives (see Recommended Alternates for more information).

Table C-6 Projected Influent Loadings 2040

Parameter	ADF		
	Flow (MGD)	Concentration (mg/L)	Load (lb/day)
BOD	1.11	400	3703
TSS	1.11	250	2314
TKN	1.11	45	417

The projected loadings are based on the following criteria.

- Winter ADF concentrations for BOD and TSS are based on the 90th percentile value of the 2015-2018 influent data.
- Winter ADF concentration for TKN is based on the original WRF design assumption (35 mg/L) plus a 30% safety factor. This is an estimate because influent TKN measurement is not required by the permit and is not normally performed.
- Summer PDF concentrations are reduced to match the winter ADF loads, since the historical data shows a fairly consistent loading pattern to the WRF.

The loading projections are similar in nature to the flow projections, with an additional complication. While historical flow values are based on a direct measurement, historical loading values are calculated. Loading is calculated using the total daily flow measurement and the sampling result for BOD or TSS. BOD and TSS data varies quite a bit due to the nature of sampling and testing procedures. Grab sampling (as opposed to 24-hour composite sampling) also contributes to the varying nature of the data. All of this contributes to the wide range of historical values shown in the charts. Making a best fit line for loading projections are much trickier than flow projections. As with the flow projections, the unit concentration values were adjusted to find a best fit line with the actual historical data.

C.6. Flow Reduction Measures

Reducing inflow and infiltration (I&I) has simplified and improved seasonal operations. It is recommended that an I&I study and cost analysis be performed to investigate the potential benefits of an additional reduction to inflow and infiltration within the City's collection system.

C.7. Future Conditions without Proposed Projects

The Driggs WRF currently has several deficiencies that prevent it from handling the current loads that are placed upon it. There are no possible alterations to the current facility's operations that would meet the current loads nor would it meet the flows projected in 2040.

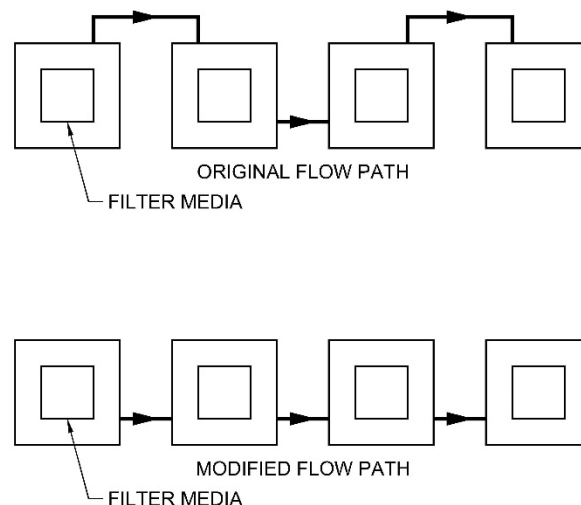
The Driggs WRF is currently not compliant with the existing permit and without upgrades and process alterations, the facility will continue to not meet the permit requirements. It can be expected that as time progresses and the facility's continued lack of compliance escalates, the city will experience more costly fines.

D. DEVELOPMENT AND INITIAL SCREENING OF ALTERNATIVES

D.1. Existing WRF Problems and Deficiencies

The primary deficiencies to be corrected by this upgrade project are discussed below.

- **Difficulty of Current System to Nitrify:** The current treatment system for the WRF does not consistently nitrify, which results in the WRF effluent not meeting discharge ammonia requirements.
- **Lack of Biosolids Wasting:** The current treatment process does not include means to waste and dispose of excess biosolids, which may contribute to the nitrification issues.
- **Insufficient Loading Design:** The current WRF is already experiencing loads higher than the current design capacity and is expected to continue to exceed loading concentrations for the duration of the planning period. The average BOD concentration that the plant experiences is 350 mg/L and the TSS concentration is typically 250 mg/L.
- **Equipment Failures:** Various pieces of equipment have failed or needed maintenance and have been removed from use within the treatment process for extended periods.
- **Equalization from Lagoons:** The use of the aerated lagoons as an equalization tank creates a potential for the recontamination or concentration of heavy metals within the treatment facility.
- **Return MSABP to Plug flow configuration:** After consulting with the manufacturer, the City of Driggs cut holes within the MSABP chambers, this has resulted in a short-circuiting of the process. The process is designed to utilize a plug flow design to maximize treatment effectiveness. The modified flow path creates a continuous flow situation leaving the upper portion of the process train as a potential dead zone that leaves material in the process for extended periods and allows for aerobic decay to affect the process train.



D.2. Alternatives

D.2.a. Multiple Reasonable Alternatives to Upgrade and/or Construct Facilities

D.2.a.1 *Interim Alternates*

The goal of any interim upgrades is to meet the discharge ammonia limits while making minimal changes to the current process and operations. The interim upgrade is envisioned primarily as an additional treatment process that can be easily added into the existing process train. The following alternatives have been identified as potential candidates.

D.2.a.1.a. Chemical Oxidation

Chlorine or ozone can be added after the MSABP process to convert any remaining ammonia to nitrate.

D.2.a.1.b. Gas Permeable Membrane (Markel)

A gas permeable membrane (nano-filtration sized pores) can be used with sulfuric acid feed to remove ammonia and produce ammonium sulfate.

D.2.a.1.c. Ion Exchange (Purammon)

This system uses ion exchange to remove ammonia and produce ammonium sulfate.

D.2.a.1.d. Air Stripping

An air stripping tower is used to remove the gas phase portion of ammonia in the water.

D.2.a.1.e. Alternate Discharge Point

Effluent is discharge directly to the Teton River instead of into Woods Creek. This would allow for more dilution to the effluent and would provide a higher discharge limit for ammonia (in the 4-6 mg/L range). Because winter discharge ammonia levels normally exceed this higher level, additional treatment would be needed.

D.2.a.1.f. Influent Toxicity Controls

Addition of ferric chloride or electro-coagulation are potential options that could be considered to help the MSABP process run correctly.

D.2.a.1.g. Biocatalytic Composite Enhanced Nitrification (Westech/Microvi)

This system is tertiary biological nitrification process that uses biocatalytic composites to intensify the biological process.

D.2.a.1.h. Adsorption Media

Tertiary water is passed through a contactor containing an absorptive media, such as zeolite, which removes ammonia.

D.2.a.1.i. Reuse of Effluent at Golf Course Ponds

Discharge to Wood Creek could be eliminated by providing reuse water to the golf course north of the WRF. Additional treatment may be required to provide the proper class of reuse water, and winter storage facilities may be required.

D.2.a.2 *Long Term*

This Section of the FPS presents and analyzes alternatives for long term upgrade alternatives, which provides upgrades to meet current deficiencies and expected future flows.

D.2.a.2.a. General Considerations

The section discusses improvements that are common to all the alternatives. See Appendix A for Staffing Calculations.

1. **Increase Staffing Level:** The current treatment process requires between 2 to 2.5 full time equivalents for proper operation, which is between 3,000 to 3,750 hours annually. The FTE calculation uses 1,500 annual hours per FTE assuming a 5-day work week, 29 days of leave (vacation, holidays, and sick), and 6.5 hours per day of productive work. This was calculated using the New England Interstate Water Pollution Control Commission Staffing Charts spreadsheet, which is commonly used across the US to estimate staffing needs. Current staffing is between 400 to 600 hours annually, which is not sufficient to operate and maintain the WRF. The WRF staff should consist of a Grade II lead operator (per the plant classification discussed in Chapter 2) and a Grade I operator at a minimum. Additional staff can be added depending upon the actual operation demands that are observed after the initial two operators have run the plant for 1-2 years
2. **Increase Influent and Effluent Sampling:** Sampling is currently limited to the parameters and frequencies required by the discharge permit. Additional process control testing is needed to determine influent loads and effluent quality. This will provide the operators a better understanding of how the process is performing, and what needs to be adjusted. The goal is to monitor key parameters on a weekly basis, such as COD (surrogate for BOD), ammonia, TKN, etc. Due to the concerns about potential toxicity, the City should consider monitoring influent COD daily to determine levels routinely entering the WRF; composite sampling would be best

D.2.a.2.b. Add Ammonia Removal Process and Expand Current Process

This alternative would be similar to the interim improvements presented in D.2.a.1 page D.2-58, but on a larger scale to accommodate the future flows and loads. None of the alternatives for ammonia removal are feasible. Therefore, this alternative will not be considered any further.

D.2.a.2.c. Convert to Traditional Activated Sludge Process and Expand

This alternative would convert the existing process into a suspended growth traditional activated sludge process. The MSABP process tanks are sized for 24 hours of hydraulic retention time, so no further aeration tankage is needed. Each zone of the tanks already includes an aeration grid, so additional aeration or mixing is not needed. Additional clarification would be added to the plate settler system, or new round configuration secondary clarifiers would be provided. New return activated sludge (RAS) and waste activated sludge (WAS) pumping would be added, and biosolids storage and dewatering facilities would be added. Note that the drum screens and disc filters could potentially be removed from service under this alternative.

D.2.a.2.d. Convert to SBR Process and Expand

This alternative would convert the existing process into a suspended growth sequencing batch reactor (SBR) process. The MSABP process tanks are sized for 24 hours of hydraulic retention time, so no further SBR tankage should be needed. A portion of the existing divider walls in the existing trains will need to be removed to create several individual SBR tanks, and the aeration grid will need to be modified. New waste activated sludge (WAS) pumping would be added, and biosolids storage and dewatering facilities would be added. Note that the drum filters and disc filters could potentially be removed from service with this alternative. The plate settler tank would be abandoned but would remain in place for future chemical addition processes (if needed).

D.2.b. No Action Alternative

Under this alternative, no major changes would be made to the current process and operation procedure. A biological supplement could continue to be added as needed to help the process meet the effluent ammonia limits, however this would not guarantee compliance. Additional penalties and fines may be incurred if limits are exceeded.

D.2.b.1 Components

There are no components for the scope of this alternative.

D.2.b.2 Opinion of Costs

There are no capital costs associated with this alternative. However, fines may be incurred which would have a financial impact on the City. The amount of fines is unknown, but could total to a substantial value.

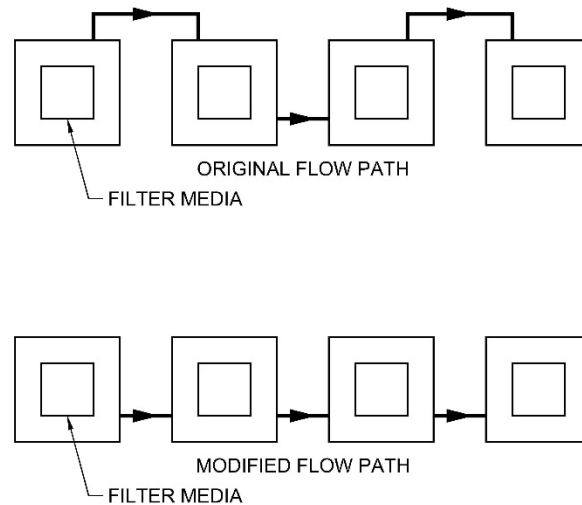
D.2.c. Optimize and Expand Current Process

This alternative involves optimizing and upgrading the existing system to meet the treatment goals. No major changes would be made to the process. Deficiencies would be corrected, and small upgrades made to increase the performance.

D.2.c.1 Components

This alternative includes the following scope. See Figure D-1 for a process schematic, and Figure D-2 for the site layout.

1. Operate MSABP System per Aquarius' Recommendations: An operating protocol will be developed using recommendations from Aquarius based on the historical performance of the process. Extensive process training will also be provided by Aquarius. The protocol will address the following control measures that are available to the operators.
 - *Number of Trains in Service*: The system currently has two trains in the Aquarius system. Generally, both trains should normally be in service. One train may be removed from service if flows or loads are well below the design criteria for the system. These one to two train thresholds will be established, and procedures developed for removing a train from service and bringing a train back into service.
 - *Return MSABP to Plug flow configuration*: After consulting with the manufacturer, the City of Driggs cut holes within the MSABP chambers, this has resulted in a short-circuiting of the process. The process is designed to utilize a plug flow design to maximize treatment effectiveness. The modified flow path creates a continuous flow situation leaving the upper portion of the process train as a potential dead zone that leaves material in the process for extend periods and allows for aerobic decay to effect the process train.



- *Dissolved Oxygen Levels:* There are two points of control for the DO in the trains: (1) the number of blowers operating and their speed, and (2) the position of the air valves that feed each zone.

The blower should be controlled by the PLC to maintain a DO setpoint. Each train contains two DO probes, located in zones 2 and 7, for a total of four DO probes. Since the air feeding both trains come from a common header pipe, one probe will be selected as the lead sensor (likely one of the zone 2 probes). The other probes will be monitored and the DO setpoint manually adjusted as needed to maintain a minimum DO at each probe.

The air valve positions are manually adjusted to maintain a minimum DO level in each zone. Frequent adjustment of these valves is not expected.

The WRF was operated in this fashion at start up, but automation problems caused the blowers to operate at full speed continuously. Additional maintenance and programming may be necessary to ensure future problems do not occur.

- *Media Scouring:* Periodic media scouring is recommended due to the potential metals' toxicity and inhibition of the biomass. This will reduce the age of the biomass, which will reduce the potential inhibition. The procedure consists of forcing high air flows through each zone sequentially to remove a portion of the biomass. Settled biomass in the last zone will be removed and sent to the proposed biosolids processing system. This is currently done 1-2 times per year. The procedure is expected to be needed 1-2 times per month but may be more frequent at first to stabilize the process.
2. Increase Automation Level: Several manual components can be automated, and additional instruments installed in order to make the process less manual. The improvements include installing automatic actuators on the air control valves and installing additional DO probes.
 3. Repair and Place into Service All Processes: Several pieces of equipment and instruments are currently not in service, and DO probes. Repairs need to be made to bring these items into service.

4. Modify Lagoons to create Equalization Basins: The MSABP process, like all biological processes, will perform better if the influent flow and load is consistent and variations are minimized. The existing ponds have been used for this purpose in the past, so a more formal structured procedure needs to be developed. The goal is to feed the WRF at a flow rate that absorbs the daily peak flows and provides a more consistent flow to the process on a monthly basis, primarily during the summer. This will allow the capacity requirement of the processes to be reduced from the peak hour flow of 4.2 MGD to 3.0 MGD. EQ would be bypassed during winter months to avoid cooling the wastewater prior to it going through the treatment process. A new flow diversion structure will be constructed to allow for operation of the Equalization Basin. The Equalization Basin is projected to hold a volume of 16,000 cubic feet.
5. Construct Waste Biosolids Holding and Dewatering System: The MSABP system is designed to reduce the amount of waste biosolids generated by the process. The process operating manual provided by Aquarius indicates that the process has a 40% yield for biosolids. This is contrary to the 2010 FPS Addendum which stated that the system would have “no sludge production”. The only current method for solids removal from the process is to dredge the lagoons. Constructing a biosolids handling system would improve process performance by providing a means to consistently waste excess biosolids from the system, which will (1) encourage new growth of organisms in the attached growth system, and (2) reduce the possibility of metals accumulation and inhibition of nitrifiers. Waste biosolids will be collected from the following processes: (1) solids collected in the plate settler clarifier, (2) solids settled in zone 12 of each MSABP train, and (3) backwash solids from the effluent filter. It will be important for the waste biosolids holding tank to have the ability to decant excess water from the biosolids, since waste streams may have a significant volume of water present.
6. Expand Various Processes: In order to meet the future design flow and loading criteria, several of the processes will need to be expanded.
 - *Influent Screening:* One additional screen with a capacity of 2 MGD will be added to provide a firm capacity of 4 MGD (one unit out of service), since this process is upstream of the Equalization Basins. There is no room in the existing Screening Building, so a new building will be constructed. Complete replacement of the screens with a different type of screen will be reviewed during design.
 - *Influent Pumping:* A second pump station with one 1 MGD pump will be constructed to provide a total firm capacity of 3 MGD. As an alternate, it may be possible to replace the existing three pumps with larger capacity pumps (1.5 MGD).
 - *Fine Screens:* No additional equipment is needed since the drum screens have a firm capacity of 3 MGD.
 - *Grit Removal:* No additional equipment is needed since the grit tank has a firm capacity of 3 MGD.
 - *MSABP Basins:* The planned third train will be constructed.
 - *MSABP Blowers:* The planned fourth blower will be installed to serve the new MSABP Basin.
 - *Plate Settler:* No additional equipment is needed.
 - *Disc Filter:* Replacement of the existing filter with a higher capacity unit is required.
 - *UV Disinfection:* The existing UV channel will be expanded to a capacity of 3 MGD

by removal of the baffle plating and installation of additional UV banks and equipment.

7. Construct New Effluent Pipeline System: This alternative includes piping the effluent directly to the Teton River instead of discharging the effluent into Woods Creek as is currently done. The higher stream flow in the Teton River would allow for a higher effluent ammonia limit, which would allow for more flexibility in operation of the WRF. The potential limit would need to be explored further with EPA and DEQ before finalizing the decision to include the pipeline.

The new effluent pipeline system would consist of the following components.

- *Pipeline*: 18,000 LF pipeline (18”) with the routing as shown in Figure D-3. Pipe sizing along the route may be reduced in steeper areas.
- *Effluent Pump Station*: The pipeline is expected to flow by gravity to the discharge point on the Teton River, so the costs presented in this section do not include an effluent pump station. A pump station will be needed if neighboring property cannot be obtained for an alignment that allows for gravity flow.
- *Discharge Structure*: A structure will be required at the discharge point into the Teton River.

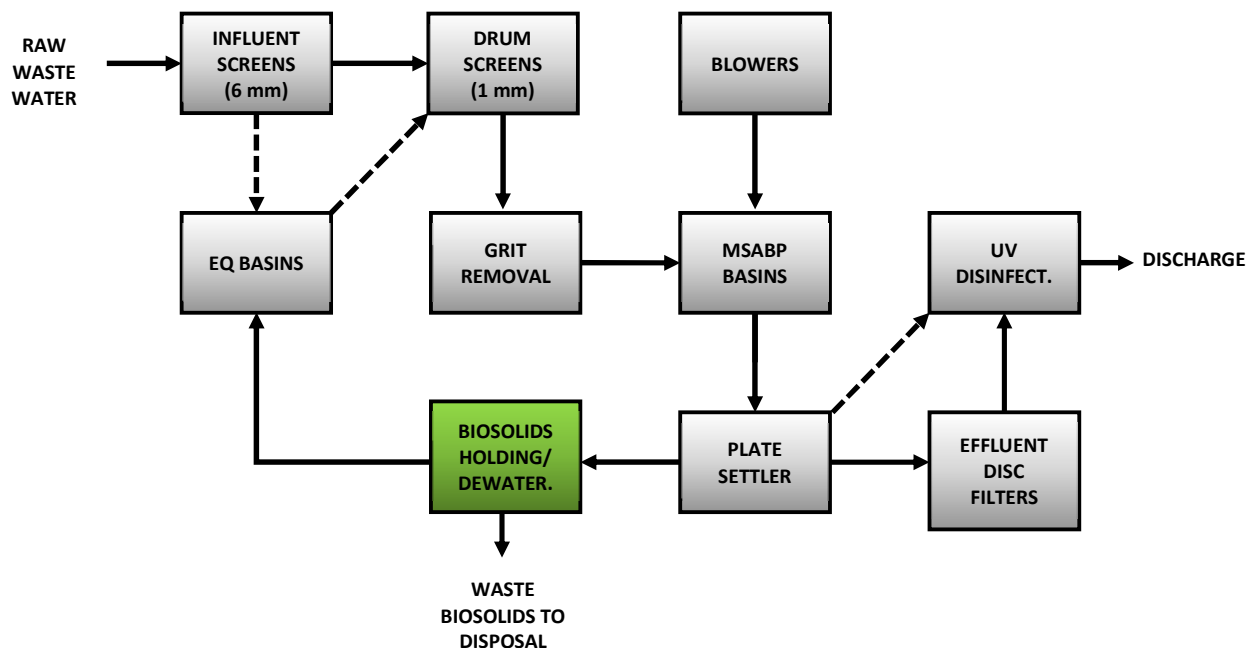


Figure D-1 Process Schematic



Figure D-2 Site Layout



Figure D-3 Effluent Pipeline Routing

D.2.c.1 Opinion of Costs

Table D-1 lists the costs for this alternative.

Table D-1 Optimize and Expand Current Process Costs

Item	Description	Cost
1	Expand Influent Screening	\$696,965
2	Convert Lagoons to Equalization Basins	\$443,041
3	Expand Influent Pumping	\$174,241
4	Repair and Place into Service All Processes	\$1,179,316
5	Expand MSABP Basins and Blowers	\$2,181,204
6	Replace Effluent Filter	\$621,532
7	Expand UV Disinfection	\$152,992
8	Upgrade, Repair and Expand Automation	\$1,179,316
9	Construct New Effluent Pipeline	\$2,881,357
10	Construction Cost Subtotal	\$9,509,965
11	Construction Contingency (20%)	\$1,901,781
12	Professional Services (20%)	\$1,901,781
13	Total	\$13,313,527

D.2.d. Regionalization**D.2.d.1 Regional Management**

The Driggs WRF supplies treatment to the City of Driggs, and the City of Victor. Contracts between the communities involved are provided in Appendix F.

D.2.d.2 Physical Consolidation of Systems

The Driggs WRF is the only facility to provide treatment to the communities listed previously in section D.2.d.1. No consolidation of existing municipal treatment systems is required.

D.2.e. General Environmental Impacts

While an environmental assessment is not part of this report, the potential environmental impact is important to the community. Evaluating the environmental impact is complex. Environmental impact may be described as the direct impact due to disposal of the effluent and biosolids and reflect the quantity and quality of each; or it may be described in more depth by inclusion of the power consumption. However, for this evaluation, the environmental impact is considered the direct impact to the environment of the liquid and solid products processed by the facility and their means of disposal along with limited consideration of the power consumption.

The WRF has had several ammonia and total suspended solids effluent violations over the past five years. Forsgren is of the opinion that the suggested alterations to plant operations and the expansion of existing facilities will mitigate the potential for future violations.

D.2.f. Conventional Collection System Alternatives**D.2.f.1 Assurances**

The City of Driggs, and Victor communities are currently connected to the Driggs WRF through the existing collection system and the cities plan to continue to expand the collection system network as the communities grow. There does not appear to be a need to issue additional assurances currently.

D.2.f.2 Evaluation of Unconventional Systems

The City of Driggs and City of Victor currently utilizes a standard conventional system to collect wastewater and convey the materials to the Driggs WRF. Forsgren is of the opinion that any alternative system would not provide additional benefits to the communities serviced without adding unnecessary costs to the communities.

D.2.g. Consideration of Biological or Physical-Chemical Treatment Systems with Discharge to Surface Waters

The Driggs WRF currently utilizes physical, biological, and chemical treatment systems to remove regulated contaminants prior to discharging the treated effluent.

D.2.h. Consideration of Innovative and Alternative Treatment Processes and Technologies

The City is willing to review potential processes that will meet permit requirements and provided treatment for the projected 2040 loads.

D.2.i. Consideration of Conveyance Systems

The current conveyance systems utilized by the various communities are traditional systems that utilize a network of gravity sewer mains and liftstations to convey wastewater to the Driggs WRF.

D.2.j. Consideration of Staged Construction

Staged construction will be needed at the Driggs WRF. The facility needs expansion but many of these facilities will need to remain in operation until the additional units can be brought online to either supplement or replace overloaded infrastructure

D.2.k. Reuse/Land Application Treatment

Reuse and Land applications for treatment are being considered among the alternates for the facility.

D.2.l. Small Alternative Wastewater Systems

A small wastewater system is not considered feasible for the communities being currently serviced by the Driggs Facilities.

D.2.m. Sludge Handling and Disposal

As stated in section D.2.a.2.c, the current facility uses the lagoons for biosolids accumulation but does not have any means to remove the biosolids regularly. The alternative will be evaluated further in this document.

D.2.n. Additional Alternatives

The City is willing to review potential processes that will meet permit requirements and provided treatment for the projected 2040 loads.

D.2.o. Alternatives for Reuse or Ultimate Disposal of Treated Wastewater

The City is willing to review potential processes that will meet permit requirements and provided treatment for the projected 2040 loads. Among the alternatives being evaluated is the disposal of the treated effluent being piped to the Teton River or used at the local golf course.

D.2.p. Revenue Generating Systems

The Driggs WRF does not have a sufficient size or capacity to operate most revenue generating systems, such as methane power generation.

D.2.q. Open Space and Recreation Opportunities

All suggested process alternates shall be built on the existing property allocated to the WRF. Therefore, there shall not be any reduction to open space or recreation opportunities. The WW effluent line will require the acquisition of easements to pipe the effluent water to the Teton river.

D.3. Changes to System Classification and Operator Licensure

The recommended changes to the existing WRF will require either the expansions to existing processes or their replacement with more effective processes. With the addition of new processes and operations the facility will need to review its system classification and the required operator licensures to ensure compliance with IDAPA regulations and guidelines.

D.4. Public Input and Participation

The input of the general populace elected officials and WRF staff shall be consulted and evaluated with regards to the preferences of the proposed alternates and their perceived benefits to the community. However, it is recognized that cost limits and regulatory compliance will hold precedence for determining the viability of each alternate.

E. FINAL SCREENING OF PRINCIPAL ALTERNATIVES

E.1. Interim Alternatives

The interim solutions were screened to determine which alternatives warranted further consideration. The following criteria were considered during screening.

1. Ability to achieve compliance goals year-round.
2. Ability to be operational by April 1, 2021.
3. Sized to meet current summer peak daily flows.
4. Low capital costs.
5. Low operational costs (manpower, electricity, propane, etc.).
6. Ability to be easily expanded in the future.
7. Ease of startup and shutdown.
8. Lower time required for permitting and approval through DEQ.
9. Ability to provide removal of additional constituents (primarily to meet potential future total nitrogen and phosphorus limits).
10. Minimal effect on WRF classification level (currently a class 2 facility).

Based on review and research, each interim alternative was determined to meet or not meet the criteria. Table E-1 presents the results of the screening.

Table E-1 Screening of Interim Alternatives

Alternative	Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Criteria 6	Criteria 7	Criteria 8	Criteria 9	Criteria 10
Chemical Oxidation	✓	✓	✓	✓		✓	✓	✓	✓	✓
Gas Permeable Membrane	✓		✓			✓	✓		✓	
Ion Exchange	✓		✓			✓	✓		✓	
Air Stripping		✓	✓	✓	✓	✓	✓	✓		
Alternate Discharge Point		✓	✓	✓	✓		✓	✓		✓
Influent Toxicity Controls		✓	✓	✓		✓	✓		✓	
Biocatalytic Composite Enhanced Nitrification			✓			✓				
Adsorption Media		✓	✓			✓	✓		✓	
Reuse on Golf Course Ponds	✓		✓		✓		✓	✓	✓	

Criteria 1 is the most important requirement to meet, followed by criteria 2. Only chemical oxidation meets both of these requirements.

E.1.a. Review of Preferred Interim Alternatives

Two alternatives have been advanced for final consideration: (1) oxidation with chlorine, and (2) oxidation with ozone.

E.1.a. Oxidation with Chlorine

E.1.a.1 Description

Chlorine oxidation uses breakpoint chlorination to convert ammonia into chloramines, which are subsequently removed through dechlorination. Control of chlorination and dechlorination will be critical since the discharge permit contains a maximum daily limit of 0.0178 mg/L.

E.1.a.2 Scope

This alternative would have the following scope.

- Chlorine Storage and Feed System with Building: Three primary options exist for supply of chlorine: (1) chlorine gas, (2) high strength sodium hypochlorite delivered to the site, or (3) low strength sodium hypochlorite generated onsite. Each of these options has advantages and disadvantages that will need to be evaluated in further detail. Due to remote location of Driggs and potential winter delivery problems with chemicals, a chlorine system will be included in this alternative. The system will be sized for 1,200 lb/day of chlorine (or 160 mg/L dose); this is based on an inlet ammonia concentration of 20 mg/L, a dose ratio of 8:1, and a daily flow rate of 0.9 MGD. Note that the use of chlorine gas will require risk management for gas leak, which will require the installation of a scrubber.

This system will also require pH adjustment. The pH of the effluent will need to be raised to 8.5 so that the chlorine will work more effectively. Sodium hydroxide is recommended, which will have a dose rate of 100 mg/L.

Dechlorination will be accomplished with sulfur dioxide. A dose rate of 10 mg/L is assumed.

A new building is needed to house the system.

- Chlorine Contact Tank: A new tank is needed to provide for reaction time for both chlorination and dechlorination. Assuming 60 minutes of detention time, this tank will have a volume of 80,000 gallons.
- Online Ammonia and Chlorine Monitoring Systems: Online sensors will be needed to monitor ammonia in the inlet water, ammonia in the effluent water, and chlorine in the effluent water.

E.1.a.1 Capital Cost

The initial estimate is that this alternative will cost between \$3M to \$5M. Any additional requirements that arise during pilot testing may further increase this estimate.

E.1.a.2 Annual Operating Cost

As with the capital costs, it is difficult to place a value on annual operating costs at this time. The initial rough estimate for O&M costs (including chemicals, power, manpower, etc.) is between \$700,000 to \$900,000 per year. Again, any additional requirements that arise during pilot testing may further increase this rough estimate.

E.1.a.1 Bench and Pilot Scale Testing

Bench and pilot scale testing are recommended to confirm success of the process and verify the design criteria of the various elements.

E.1.b. Oxidation with Ozone

E.1.b.1 Description

This alternative uses ozone to oxidize ammonia to nitrate in order to meet the discharge ammonia limits. This is an uncommon application of ozone. None of the ozone generator manufacturers that were contacted were aware of ozone being used to remove ammonia from WWTP effluent. There are a few industrial treatment applications, but no applications involving effluent from a biological process.

There are large unknowns regarding this application, all of which will need to be resolved during pilot testing before proceeding to design.

- Dose ratio for ozone: ammonia – The effluent ammonia concentration is much higher than the few industrial applications currently running, so the dose rate is uncertain. Manufacturers have suggested a ratio anywhere from 10:1 to 15:1 based on the textbook chemical reaction for ozone and ammonia.
- Oxidation demand from other pollutants – Since the effluent is treated domestic and industrial wastewater from a biological process, organic compounds (total organic carbon) and dissolved solids (iron, manganese, etc.) will be present that will exert a demand for oxidation. This will require additional ozone. The amount of additional ozone cannot be estimated without pilot scale testing.
- Production of byproducts – Adding ozone to the effluent will produce undesired chemical compounds, such as bromate and NDMA. Additional treatment may be necessary to remove the byproducts from the discharge.
- Reaction time – The time required for complete oxidation of the ammonia level present in the effluent may be significant, i.e. on the order of several hours. This would require a large volume tank for reaction.
- Reaction tank design – In addition to the size of the tank required for reaction, the design of the tank will be complicated. It may be required to be tightly sealed in order to keep the ozone in contact with the effluent for the long reaction time. A batch process may even be potentially required. Excess ozone collection and destruction systems will be required.

E.1.b.2 Scope

The scope of this alternative is as discussed below.

- Expand Filtration: Additional filtration will help in reducing the overall dose of ozone by removing suspended organic matter. The existing disc filter system could be expanded to reduce the ozone dosing and capital cost identified in the attached EOPC.
- Reaction Tank: While the exact arrangement of the reaction tank is not known at this time, a hydraulic retention time of 6 hours at a flow of 1.0 MGD has been assumed for the purposes of this evaluation. This results in a 250,000-GAL tank with dimensions of 35 FT wide x 70 FT long x 15 FT deep, with concrete construction.
- Ozone Generators: Determining the required dose is difficult for this application since ozone has not been used specifically to oxidize ammonia in WWTP effluent. Additional demand will also result from organics and dissolved solids in the effluent. For the purpose of this evaluation, the demand is estimated to be in the 12.5:1 range to achieve oxidation of ammonia to nitrate. Note that further oxidation of nitrate would require additional ozone dose. For a daily flow of 1.0 MGD and an ammonia concentration of 20

mg/L, ozone usage would be approximately 2,000 LB/DAY. Ozone generation systems of this size may require a pure oxygen supply, which can be supplied in bulk or generated onsite.

- pH Adjustment Chemical Feed: The pH of the feed water will need to be increased to around 8.5. A sodium hydroxide storage/feed system is proposed.
- GAC: Granular activated carbon will be used to remove any residual ozone present in the effluent and potential by products formed during ozonation. GAC may be required by regulatory review pending results of pilot testing and therefore has not been included in the attached EOPC.

E.1.b.3 Capital Cost

There are too many unknowns at this point to provide an expected capital cost, but the initial rough estimate is that this alternative will cost between \$5M to \$10M. Any additional requirements that arise during pilot testing may further increase this rough estimate.

E.1.b.4 Annual Operating Cost

As with the capital costs, it is difficult to place a value on annual operating costs at this time. The initial rough estimate for O&M costs (including chemicals, power, manpower, etc.) for the ozone process is between \$300,000 to \$600,000 per year. Again, any additional requirements that arise during pilot testing may further increase this rough estimate.

E.1.b.5 Bench and Pilot Scale Testing

Process testing and demonstration should be accomplished in two phases.

- Bench top testing: Given the number of variables and unknowns, bench scale testing is recommended as the first step. Jar testing will allow various effluent conditions to be tested and will help establish target ozone dosages, pH ranges, and residence times. We expect that bench scale testing costs will range from \$10,000 to \$15,000.
- Pilot scale testing: Based on the results of the bench scale testing, a pilot scale test system can be set up and operated. The pilot scale system would process about 10-20 GPM, and would involve rental of an ozone generator system, construction of representative process tanks and feed systems, operation of the pilot system, monitoring of power and chemical usage, and testing of the inlet and outlet flow of the pilot system. We expect that a one-month large scale pilot test costs would range from \$40,000 to \$60,000 depending upon the amount of testing and day to day operations tasks that the City performs. However, a small scale 30-day pilot test could be completed for around \$10,000 to determine viability of this technology. Larger scale testing may be needed to optimize sizing and design components.

E.2. Long Term Alternatives

E.2.a. Summary of Alternatives Considered

The following alternatives have been identified for the upgrade.

- Alternative 1 – Do Nothing
- Alternative 2 – Optimize and Expand Current Process
- Alternative 3 – Add Ammonia Removal Process and Expand Current Process
- Alternative 4 – Convert to Traditional Activated Sludge Process and Expand

- Alternative 5 – Convert to SBR Process and Expand

E.3. Alternative 1 – Do Nothing

See section D.2.b No Action Alternative page D.2-60

E.4. Alternative 2 – Optimize and Expand Current Process

See section D.2.c Optimize and Expand Current Process page D.2-60

E.5. Alternative 3 – Add Ammonia Removal Process and Expand Current Process

E.5.a. Description

This alternative would be similar to the interim improvements presented in Chapter 4, but on a larger scale to accommodate the future flows and loads. As discussed in D.2.a.1 Interim Alternates, none of the alternatives for ammonia removal are feasible. Therefore, this alternative will not be considered any further.

E.6. Alternative 4 – Convert to Traditional Activated Sludge Process and Expand

E.6.a. Description

Alternative 4 would convert the existing process into a suspended growth traditional activated sludge process. The MSABP process tanks are sized for 24 hours of hydraulic retention time, so no further aeration tankage is needed. Each zone of the tanks already includes an aeration grid, so additional aeration or mixing is not needed. Additional clarification would be added to the plate settler system, or new round configuration secondary clarifiers would be provided. New return activated sludge (RAS) and waste activated sludge (WAS) pumping would be added, and biosolids storage and dewatering facilities would be added. Note that the drum screens and disc filters could potentially be removed from service under this alternative.

E.6.a. Components

This alternative includes the following scope. See Figure E-1 for a process schematic, and Figure E-2 for a site layout.

1. Construct Additional Influent Screening Building: One additional screen with a capacity of 2 MGD will be added to provide a firm capacity of 4 MGD (one unit out of service), since this process is upstream of the Equalization Basins. There is no room in the existing Screening Building, so a new building will be constructed. Complete replacement of the screens with a different type of screen will be reviewed during design.
2. Convert Lagoons to Equalization Basins: The existing ponds will be converted to Sludge Storage Lagoons and a portion of Lagoon 2 will be separated and converted to an Equalization Basin. The goal is to feed the WRF at a flow rate that absorbs the daily peak flows and provides a more consistent flow to the process on a monthly basis. This will allow the capacity requirement of the processes to be reduced from the peak hour flow of 4.2 MGD to 3.0 MGD. A new flow diversion structure will be constructed to allow for operation of the 16,000 cubic feet Equalization Basin.
3. Construct Additional Influent Pump Station: A second pump station with one 1 MGD pump will be constructed to provide a total firm capacity of 3 MGD. As an alternate, it may be possible to replace the existing three pumps with larger capacity pumps (1.5 MGD).
4. Convert MSABP Tanks to Activated Sludge Basins: Minimal work is needed to accomplish this work, primarily removal of the attached growth media and frames.
5. Construct Third Activated Sludge Train: The planned third train will be constructed.

6. Install Additional Blower: The planned fourth blower will be installed to serve the new train.
7. Construct New Clarification: The plate settler tank would be abandoned but would remain in place for future chemical addition processes (if needed). Two new 65' diameter circular clarifiers will be constructed.
8. Construct New RAS/WAS Pumping Facility: A new pump station for the RAS and WAS pumping systems will be constructed to serve the new clarifiers.
9. Filtration System Modifications: Filtration is not expected to be needed for this process. The existing filter will be taken offline. If the City desires to filter the effluent, replacement of the filter will be required to meet future flows.
10. Expand UV Disinfection Systems: The existing UV channel will be expanded to a capacity of 3 MGD by removal of the baffle plating and installation of additional UV banks and equipment.
11. Construct New Effluent Pipeline System: This alternative includes piping the effluent directly to the Teton River instead of discharging the effluent into Woods Creek as is currently done. The higher stream flow in the Teton River would allow for a higher effluent ammonia limit, which would allow for more flexibility in operation of the WRF. The potential limit would need to be explored further with EPA and DEQ before finalizing the decision to include the pipeline.

The new effluent pipeline system would consist of the following components.

- *Pipeline*: 18,000 LF pipeline (18") with the routing as shown in Figure E-3. Pipe sizing along the route may be reduced in steeper areas.
- *Effluent Pump Station*: The pipeline is expected to flow by gravity to the discharge point on the Teton River, so the costs presented in this section do not include an effluent pump station. A pump station will be needed if neighboring property cannot be obtained for an alignment that allows for gravity flow.
- *Discharge Structure*: A structure will be required at the discharge point into the Teton River.

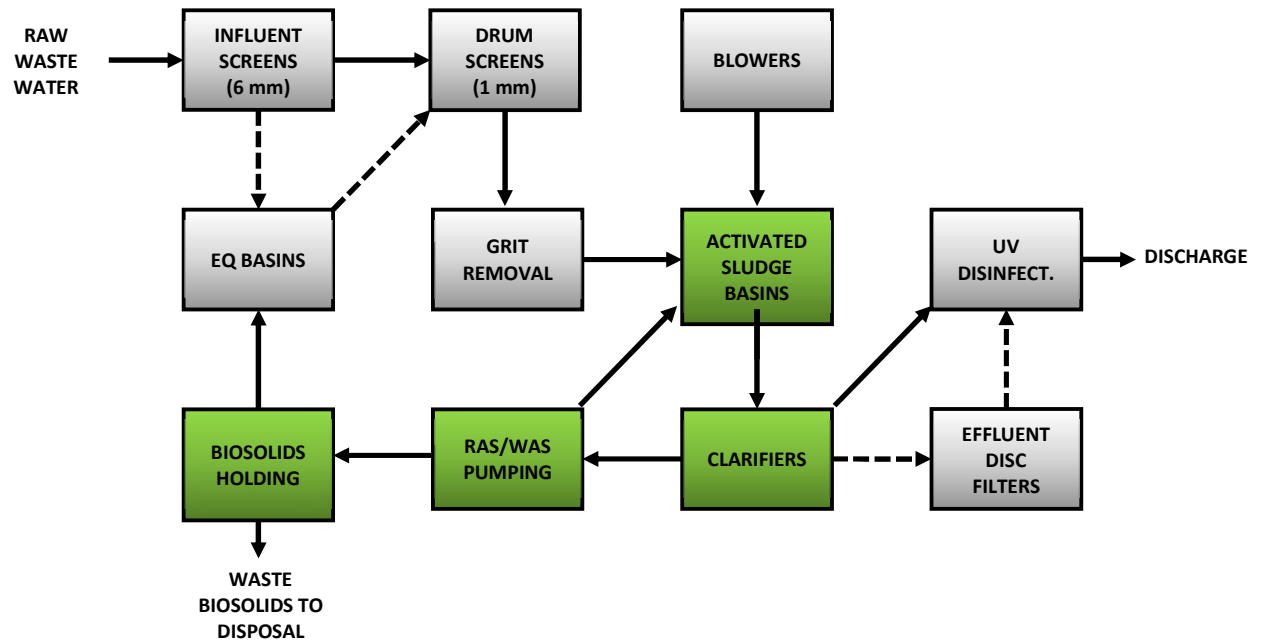


Figure E-1 Alternative 4 Process Schematic



Figure E-2 Alternate 4 - Site Layout



Figure E-3 Effluent Pipeline Routing

E.6.a. Opinion of Costs

Table E-2 lists the costs for this alternative.

Item	Description	Cost
1	Expand Influent Screening	\$676,173
2	Convert Lagoons to Equalization Basins	\$429,823
3	Expand Influent Pumping	\$169,043
4	Convert MSABP Tanks to Activated Sludge Basin	\$73,183
5	Expand Activated Sludge Basins and Blowers	\$1,906,889
6	Construct New Clarification	\$2,099,639
7	Construct New RAS/WAS Pumping Facility	\$1,047,243
8	Replace Effluent Filter	\$621,532
9	Expand UV Disinfection System	\$148,428
10	Construct New Effluent Pipeline	\$2,795,396
11	Construction Cost Subtotal	\$9,967,349
12	Construction Contingency (20%)	\$2,262,498
13	Professional Services (20%)	\$2,262,498
14	Total	\$14,492,345

Table E-2 Alternate 4 Projected Costs

E.7. Alternative 5 – Convert to SBR Process and Expand**E.7.a. Description**

This alternative would convert the existing process into a suspended growth sequencing batch reactor (SBR) process. The MSABP process tanks are sized for 24 hours of hydraulic retention time, so no further SBR tankage should be needed. A portion of the existing divider walls in the existing trains will need to be removed to create several individual SBR tanks, and the aeration grid will need to be modified. New waste activated sludge (WAS) pumping would be added, and biosolids storage and dewatering facilities would be added. Note that the drum filters and disc filters could potentially be removed from service with this alternative. The plate settler tank would be abandoned but would remain in place for future chemical addition processes (if needed).

E.7.b. Components

This alternative includes the following scope. See Figure 5-6 for a process schematic, and Figure 5-7 for a site layout.

1. **Construct Additional Influent Screening Building:** One additional screen with a capacity of 2 MGD will be added to provide a firm capacity of 4 MGD (one unit out of service), since this process is upstream of the Equalization Basins. There is no room in the existing Screening Building, so a new building will be constructed. Complete replacement of the screens with a different type of screen will be reviewed during design.
2. **Convert Lagoons to Equalization Basins:** The existing ponds will be converted to Sludge Storage Lagoons and a portion of Lagoon 2 will be separated and converted to an Equalization Basin. The goal is to feed the WRF at a flow rate that absorbs the daily peak flows and provides a more consistent flow to the process on a monthly basis. This will allow the capacity requirement of the processes to be reduced from the peak hour flow of 4.2 MGD to 3.0 MGD. A new flow diversion structure will be constructed to allow for operation of the 16,000 cubic feet Equalization Basin.

3. Construct Additional Influent Pump Station: A second pump station with one 1 MGD pump will be constructed to provide a total firm capacity of 3 MGD. As an alternate, it may be possible to replace the existing three pumps with larger capacity pumps (1.5 MGD).
4. Convert MSABP Tanks to Sequencing Batch Reactor (SBR) Basins: This requires removal of the attached growth media and frames, and removal of several interior baffle walls. New equipment will be installed, including mixers and decanters.
5. Construct Third SBR Train: The planned third train will be constructed.
6. Install Additional Blower: The planned fourth blower will be installed to serve the new train.
7. Construct New WAS Pumping Facility: A new pump station for the WAS pumping system will be constructed to serve the SBRs.
8. Filtration System Modifications: Filtration is not expected to be needed for this process. The existing filter will be taken offline. If the City desires to filter the effluent, replacement of the filter will be required to meet future flows.
9. Expand UV Disinfection Systems: The existing UV channel will be expanded to a capacity of 3 MGD by removal of the baffle plating and installation of additional UV banks and equipment.
10. Construct New Effluent Pipeline System: This alternative includes piping the effluent directly to the Teton River instead of discharging the effluent into Woods Creek as is currently done. The higher stream flow in the Teton River would allow for a higher effluent ammonia limit, which would allow for more flexibility in operation of the WRF. The potential limit would need to be explored further with EPA and DEQ before finalizing the decision to include the pipeline.

The new effluent pipeline system would consist of the following components.

- *Pipeline*: 18,000 LF pipeline (18”) with the routing as shown in Figure E-4. Pipe sizing along the route may be reduced in steeper areas.
- *Effluent Pump Station*: The pipeline is expected to flow by gravity to the discharge point on the Teton River, so the costs presented in this section do not include an effluent pump station. A pump station will be needed if neighboring property cannot be obtained for an alignment that allows for gravity flow.
- *Discharge Structure*: A structure will be required at the discharge point into the Teton River.

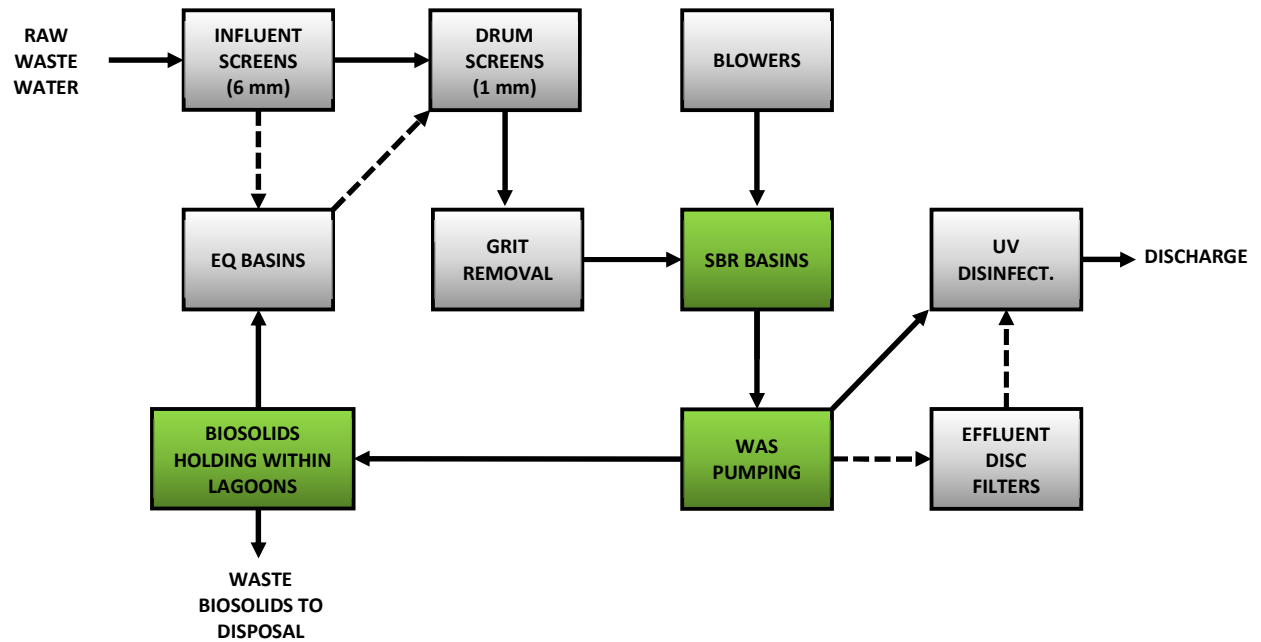


Figure E-4 Alternative 5 Process Schematic



Figure E-5 Alternate 5 Site Layout

E.7.c. Opinion of Costs

Table E-3 lists the costs for this alternative.

Table E-3 Alternative 5 Costs

Item	Description	Cost
1	Expand Influent Screening	\$676,173
2	New Equalization Basins	\$644,735
3	Expand Influent Pumping	\$169,043
4	New SBR Basins	\$1,958,427
5	SBR Support Equipment	\$721,526
6	Construct New WAS Pumping Facility	\$573,097
7	Dewatering	\$618,450
8	Drying	\$1,236,901
9	Expand UV Disinfection System	\$148,428
10	Construct New Biosolids Storage and Dewatering Facility	\$1,966,673
11	Construct New Effluent Pipeline	\$2,795,396
12	Construction Cost Subtotal	\$11,508,848
13	Construction Contingency (20%)	\$2,372,788
14	Professional Services (20%)	\$2,372,788
15	Total	\$16,254,425

F. RECOMMENDED ALTERNATIVE DESCRIPTION AND IMPLEMENTATION ARRANGEMENTS

F.1. Selection of Interim Alternative

Based on the costs and challenges discussed above, an interim alternative was not pursued.

F.2. Selection of Long Term Alternative

The alternatives are evaluated using the criteria described below, and by establishing a weighting value and rating on how the alternatives perform in each criterion. The weight values are adjusted based on importance to the City, while the rating scale of 0-5 is used to evaluate performance in that criterion per alternative. The criteria definitions are described below.

F.2.a. Selection Criteria

- **Capital Costs:** Initial capital costs associated with implementing a new treatment facility include: construction of the new facilities; engineering design, construction observation, inspection, and materials testing; legal; fiscal; land and right of ways; start-up and operations training; preparation of operation and maintenance manuals; mapping; administrative; and all other miscellaneous project costs necessary to have an operating treatment plant. Construction cost of the new treatment facility will be the largest cost item associated with the project. When preparing opinions of probable construction cost, the same basis of establishing cost opinions is used to evaluate all the principal alternatives and to project future costs.
- **O&M/Life Cycle Costs:** The annual costs for operations and maintenance (O&M) are important factors in the evaluation of alternative treatment processes. The principal elements of O&M costs are energy, chemicals and equipment replacement. A present worth analysis is performed using the estimated capital construction costs and yearly O&M costs based on a 20 year life span of the equipment.
- **Wastewater Industry Experience:** Certain processes have a longer “track record” in use with wastewater treatment, which can present an advantage in which the bugs have been worked out in the system. Newer technologies with fewer installations may experience operational difficulties when applied to a wastewater stream with different characteristics.
- **Process Flexibility:** Process flexibility is defined as the ability of a process to adapt to variations in wastewater strength and wastewater quantity on a daily and seasonal basis.
- **Process Complexity/Operability:** Process complexity addresses the effort and skill level required of the operations staff to run the treatment system and the associated time requirements. Process complexity may be partially offset by increased plant automation; however, automation may also introduce a different type of complexity, so a different skill set is required of the operations staff. Process complexity is often a compromise with effluent quality; the relationship being that additional complexity provides greater process control and thus enhances the potential to produce a higher quality effluent. The complexity of the treatment system used will result in the amount of training and experience the operator needs.
- **Operational Effort:** Operational effort concerns how much effort is required by the operations staff to ensure that the process runs correctly and meet permit limits. Many other items can determine the level of effort, including complexity, maintainability, etc.
- **Worker Safety:** Different processes have different impacts on operator safety. For example, pumping systems operating at high pressures may present a risk of failure and physical injury. Chemical systems present a handling safety risk.

- **Expandability:** This describes the ease at which the process can be expanded, and may be related to complexity, costs, etc. For example, a system that treats all water in a single tank (like SBR) is easier to expand than a process that uses several tanks (like traditional activated sludge).
- **Reliability/Maintainability:** Process reliability refers to the ability of a process to produce an effluent of consistent quality. Reliability is a factor that is both inherent in the design and dependent upon the reliability of each piece of equipment selected by the manufacturer including valves, motors, instruments, pumps etc., all comprising the total treatment system. Reliability is salient to a treatment system because the treatment plant protects the environment. The treatment facility will accept the responsibility of meeting the discharge permit, a permit that has financial penalties associated with prolonged and egregious violations. All of the processes can produce an effluent that meets the preliminary effluent limits under normal conditions, however, their ability to reliably meet the effluent limits with fluctuating conditions varies.
- **Environmental Impacts:** This item describes how the alternative may impact the environment. Items that factor into this include complexity (since complex processes have a great opportunity for errors), level of treatment (processes that treat to a higher level have less impact on the environment), chemicals required (more chemicals means more opportunity for spills), etc.
- **Seasonal Flow Operations:** This item describes how the alternative may handle regular fluctuations for the influent flows without significantly impacting the quality of treatment.
- **Power Requirements:** Power is typically the largest operating budget item for a treatment plant. Mechanical treatment of water requires a plethora of pumps and equipment to move the water from one process to the next and to remove the contaminants. Electricity costs were included in the overall O&M costs. Power requirements for each alternative would have an impact on the size and complexity of a back-up power supply.
- **Chemical Requirements:** Physical treatment processes normally require varying amounts of chemicals, primarily to achieve removal of contaminants and provide cleaning of process components. Greater chemical requirements affect the work load and safety of operations staff.

Table F-1 presents the ranking matrix for the alternatives. The rating value ranges from 1 to 5 and reflects how each selection criteria fulfills the requirement (1 being poorly and 5 being excellently). The weight value indicates how important each criteria is. Note that a higher total value is better.

Table F-1 Alternatives Ranking Matrix

Alternative 4 is the preferred alternatives.

Selection Criteria	Weight	Alternate 1		Alternate 2		Alternate 3		Alternate 4		Alternate 5	
		Do Nothing		Optimize Current Process		Add Ammonia Removal		Convert to Activated Sludge		Convert to SBR	
		Ranking	Total Value	Ranking	Total Value	Ranking	Total Value	Ranking	Total Value	Ranking	Total Value
Capital Cost	20%	5	1.00	4	0.80	1	0.20	4	0.80	3	0.60
O&M / Life Cycle Cost	20%	1	0.20	3	0.60	1	0.20	3	0.60	3	0.60
Wastewater Industry Experience	10%	1	0.10	1	0.10	1	0.10	5	0.50	5	0.50
Process Flexibility	7.5%	1	0.08	1	0.08	3	0.23	4	0.30	5	0.38
Process Complexity/Operability	7.5%	1	0.08	1	0.08	1	0.08	5	0.38	4	0.30
Operational Effort	5%	3	0.15	3	0.15	2	0.10	5	0.25	4	0.20
Worker Safety	5%	5	0.25	4	0.20	2	0.10	4	0.20	4	0.20
Expandability	5%	1	0.05	3	0.15	3	0.15	4	0.20	5	0.25
Reliability/Maintainability	5%	1	0.05	1	0.05	4	0.20	5	0.25	5	0.25
Environmental Impacts	5%	1	0.05	3	0.15	5	0.25	4	0.20	4	0.20
Seasonal Flow Operations (High/Low)	5%	1	0.05	1	0.05	3	0.15	5	0.25	1	0.05
Power Requirements	2.5%	3	0.08	3	0.08	-4	-0.10	3	0.08	3	0.08
Chemical Requirements	2.5%	5	0.13	4	0.10	1	0.03	4	0.10	4	0.10
Totals	100%		2.250		2.575		1.675		4.100		3.700

G. PUBLIC PARTICIPATION

H. DEVELOPMENT OF AN EID

I. APPENDICES.

Appendix A – Engineering Data



New England Interstate Water Pollution Control Commission

THE NORTHEAST GUIDE FOR ESTIMATING STAFFING AT PUBLICLY AND PRIVATELY OWNED WASTEWATER TREATMENT PLANTS (One Shift)

Plant Name:

Design Flow: 0.5-1.0 mgd

Actual Flow:

FINAL ESTIMATES

Chart #	Annual Hours
Chart 1 – Basic and Advanced Operations and Processes	2145.00
Chart 2 – Maintenance	750.00
Chart 3 – Laboratory Operations	416.00
Chart 4 – Biosolids/Sludge Handling	0.00
Chart 5 – Yardwork	260.00
Estimated Operation and Maintenance Hours	3571.00
Estimated Operation and Maintenance Staff	2.38
Estimated Additional Staff from Chart 7	
TOTAL STAFFING ESTIMATE	2.38

Note: The Total Staff estimate from Charts 1-5 will not be the final amount of staff necessary to run the facility. Please review Chart 7 for additional staffing needs.

Chart 6 - Automation/SCADA

Chart 7 - Considerations for Additional Plant Staffing

Note: The user should attach supporting information to justify additional staffing needs from Chart 7.

Final Comments:

THE NORTHEAST GUIDE FOR ESTIMATING STAFFING AT PUBLICLY AND PRIVATELY OWNED WASTEWATER TREATMENT PLANTS

Choose Staffing Shifts

One Shift

Enter Plant Design Flow

0.5-1.0 mgd

Total Staffing Hours: 3571.00

<u>Data Notes</u>	<u># of Units</u>	<u>Process/Activity/Flow</u>	<u>Hours</u>	<u>Calculated</u>	<u>Subtotal</u>
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Begin Chart 1 – Basic and Advanced Operations and Processes

<u>Data Notes</u>	<u># of Units</u>	<u>Process</u>	<u>Hours</u>	<u>Calculated</u>	<u>Subtotal</u>
	1	Preliminary Treatment	0.50	130.00	
# of units		Primary Clarification	0.50	0.00	
	1	Activated Sludge	4.00	1040.00	
		Activated Sludge w/BNR	6.00	0.00	
Choose Range		Rotating Biological Contactor	2.25	0.00	
# of tanks		Sequencing Batch Reactor	1.00	0.00	
		Extended Aeration (w/o primary)	5.00	0.00	
		Extended Aeration w/BNR	7.00	0.00	
		Pure Oxygen Facility	X		
		Pure Oxygen Facility w/BNR	X		
		Trickling Filter	1.00	0.00	
		Oxidation Ditch (w/o primary)	5.00	0.00	
		Oxidation Ditch w/BNR	7.00	0.00	
		Aeration Lagoon	1.50	0.00	
		Stabilization Pond	1.00	0.00	
	1	Innovative Alternative Technologies	3.00	780.00	
		Nitrification	0.25	0.00	
		Denitrification	0.25	0.00	
		Phosphorus Removal (Biological)	0.25	0.00	
		Phosphorus Removal (Chemical/Physical)	0.50	0.00	
		Membrane Processes	0.25	0.00	
	1	Cloth Filtration	0.25	65.00	
		Granular Media Filters (Carbon, sand, anthracite, garnet)	1.00	0.00	
		Water Reuse	0.25	0.00	
		Plant Reuse Water	0.10	0.00	
		Chlorination	0.50	0.00	
		Dechlorination	0.50	0.00	
	1	Ultraviolet Disinfection	0.50	130.00	
# of units		Wet Odor Control	0.50	0.00	
# of units		Dry Odor Control	0.25	0.00	
		Septage Handling	0.50	0.00	

End of Chart 1 – Basic and Advanced Operations and Processes SUBTOTAL:
2145.00

* Secondary Clarification has been built into basic operations processes.
 * Activated Sludge process includes RAS and WAS pumping.

Begin Chart 2 – Maintenance					
Unit Descriptons	# of Units	Activity/Flow	Hours	Calculated	Subtotal
# of screens		Manually Cleaned Screens	0.25	0.00	
# of screens		Mechanically Cleaned Screens	0.25	0.00	
# of screens	2	Mechanically Cleaned Screens with grinders/washer/compactors	0.50	260.00	
# of units		Comminutor/Macerator	0.25	0.00	
# of chambers		Aerated Grit Chambers	0.10	0.00	
# of units	1	Vortex Grit Removal	0.10	26.00	
# of units		Gravity Grit Removal	0.10	0.00	
# of tanks		Additional Process Tanks	0.10	0.00	
# of chemicals added for processes		Chemical Addition (varying dependent upon degree of treatment)	0.10	0.00	
# of clarifiers		Circular Clarifiers	0.25	0.00	
# of clarifiers		Chain and Flight Clarifiers	0.25	0.00	
# of clarifiers		Traveling Bridge Clarifiers	X		
# of clarifiers		Squirgle Clarifiers	0.25	0.00	
X	1	Pumps	100.00	100.00	
# of trains		Rotating Biological Contactor	0.15	0.00	
# of TFs		Trickling Filters	0.15	0.00	
# of tanks		Sequencing Batch Reactor	0.15	0.00	
# of mixers		Mechanical Mixers	0.10	0.00	
# of blowers	4	Aeration Blowers	0.20	208.00	
# of cartridges		Membrane Bioreactor	0.10	0.00	
# of systems		Subsurface Disposal System	0.10	0.00	
X		Groundwater Discharge	0.10	0.00	
# of digesters		Aerobic Digestion	0.10	0.00	
# of digesters		Anaerobic Digestion	0.20	0.00	
# of basins		Gravity Thickening	0.10	0.00	
# of belts		Gravity Belt Thickening	0.15	0.00	
# of presses		Belt Filter Press	0.15	0.00	
# of units		Mechanical Dewatering (Plate Frame and Centrifuges)	0.15	0.00	
# of units		Dissolved Air Floatation	0.10	0.00	
X		Chlorination (gas)	0.10	0.00	
X		Chlorination (liq.)	0.20	0.00	
X		Dechlorination (gas)	0.10	0.00	
X		Dechlorination (liq.)	0.20	0.00	
# of racks	2	Ultraviolet	0.10	52.00	
# of units		Biofilter	0.50	0.00	
# of units		Activated Carbon	0.50	0.00	
# of units		Wet Scrubbers	X		
# of screens	2	Microscreens	0.10	52.00	
# of units		Pure Oxygen	X		
# of units		Final Sand Filters	0.20	0.00	
# of different types of probes	2	Probes/Instrumentation/Calibration	0.10	52.00	
End of Chart 2 – Maintenance SUBTOTAL:					750.00

Begin Chart 3 – Laboratory Operations

<u>Frequency of test</u>	<u># of times test is run for selected time frame</u>	<u>Tests</u>	<u>Hours</u>	<u>Calculated</u>	<u>Subtotal</u>
		Acidity	0.75	0.00	
		Alkalinity, total	0.75	0.00	
		Biochemical Oxygen Demand (BOD)	2.50	0.00	
52	1	Chemical Oxygen Demand (COD)	2.50	130.00	
		Chloride	0.50	0.00	
		Chlorine, Total Residual	0.25	0.00	
		Coliform, Total, Fecal, E.Coli	1.00	0.00	
52	2	Dissolved Oxygen (DO)	0.25	26.00	
		Hydrogen Ion (pH)	0.25	0.00	
		Metals	3.00	0.00	
		Toxicity	2.00	0.00	
52	1	Ammonia	2.00	104.00	
		Total Nitrogen	2.00	0.00	
		Oil and Grease	3.00	0.00	
		Total and Dissolved Phosphorus	2.00	0.00	
		Solids, Total, Dissolved, and Suspended	3.00	0.00	
		Specific Conductance	0.25	0.00	
		Sulfate	1.00	0.00	
		Surfactants	1.00	0.00	
		Temperature	0.25	0.00	
		Total Organic Carbon (TOC)	0.25	0.00	
		Turbidity	0.25	0.00	
		Bacteriological Enterococci	1.00	0.00	
		Lab QA/QC Program	1.00	0.00	
52	1	Process Control Testing	3.00	156.00	
		Sampling for Contracted Lab Services	0.25	0.00	
		Sampling for Monitoring Groundwater wells	0.50	0.00	

End of Chart 3 – Laboratory Operations SUBTOTAL:

416.00

*Sampling time is built into testing time estimates.

Begin Chart 4 – Biosolids/Sludge Handling

<u>Unit Descriptons</u>	<u># of Units</u>	<u>Process</u>	<u>Hours</u>	<u>Calculated</u>	<u>Subtotal</u>
		Belt Filter Press	3.00	0.00	
		Plate & Frame Press	1.50	0.00	
		Gravity Thickening	0.25	0.00	
		Gravity Belt Thickening	0.25	0.00	
		Rotary Press	0.25	0.00	
		Dissolved Air Floatation	0.50	0.00	
		Alkaline Stabilization	0.25	0.00	
		Aerobic Digestion	0.50	0.00	
		Anaerobic Digestion	0.25	0.00	

	Centrifuges	1.00	0.00
Choose Range	Composting	2.00	0.00
	Incineration	X	
	Air Drying – Sand Beds	0.50	0.00
	Land Application	0.50	0.00
	Transported Off-Site for Disposal	1.00	0.00
	Static Dewatering	1.00	0.00
End of Chart 4 – Biosolids/Sludge Handling SUBTOTAL:			0.00
Begin Chart 5 – Yardwork			
Unit Descriptons	# of Units	Process	Hours
	1	Janitorial/Custodial Staff	100
	1	Snow removal	60
	1	Mowing	100
# of vehicles		Vehicle Maintenance	25
		Facility Painting	60
		Rust removal	60
End of Chart 5 – Yardwork SUBTOTAL:			260.00
Begin Chart 6 – Automation/SCADA			
	Automation/SCADA	Yes/No	
	Automated attendant or Interactive voice recognition (IVR) equipment	No	
	Automated Meter Reading (AMR), Touchpad meters or other automated metering technology	No	
	Automatic Call Director (ACD)	No	
	Billing system	No	
	Computerized Facilities Management (FM) System	No	
	Computerized preventative maintenance	Yes	
	Computerized recordkeeping	Yes	
	E-mail	Yes	
	Geographical Information System (GIS)	No	
	Integrated purchasing and inventory	No	
	Internet website	No	
	Laboratory Information Management System (LIMS)	No	
	Local Area Network (LAN)	No	
	Supervisory Control and Data Acquisition (SCADA)	Yes	
	Telemetry	No	
	Utility customer information system (CIS) package	No	
End of Chart 6 – Automation/SCADA			
Begin Chart 7 – Considerations for Additional Plant Staffing			
	Activities	Yes/No	

Management responsibilities (i.e., human resources, budgeting, outreach, training, town/city meetings, scheduling, etc.) and responsibility for clerical duties (i.e., billing, reports, correspondence, phones, time sheets, mailings, etc.)	No
Plant staff responsible for collection system operation and maintenance, pump station inspections, and/or combined sewer overflows	No
Plant operators responsible for snow plowing, road/sidewalk repair, or other municipal project	No
Plant staff involved in generating additional energy	No
Plant receives an extra high septage and/or grease load (higher than designed organic and grease loadings) or plant takes in sludge from other treatment plants	No
Plant is producing a Class A Biosolid product	No
Plant operators responsible for operating generators and emergency power	No
Plant responsible for industrial pre-treatment program	No
Plant staff responsible for plant upgrades and large projects done both on-site and off-site (i.e., collection systems, manholes, etc.)	No
Plant operators responsible for machining parts on-site	No
Age of plant and equipment (over 15 years of age)	No
End of Chart 7 – Considerations for Additional Plant Staffing	

Appendix B – Operations and Maintenance Budget

Account Number	Account Title	2018-19	2018-19	2019-20	2019-20	2020-21	
	WASTE WATER (WW)	Prior Yr	Prior Yr	Current Yr	Current Yr	Proposed	
		Budget	Actual	Budget	Actual	Budget	
WASTE WATER FUND					Thru MAR		Notes
Revenue							
5237100	SERVICE FEES	792,000	796,144	815,760	403,114	868,325	3% increase on base/flow rates
5237110	PROJECT FUNDS	0	0	0	0	0	
5237200	HOOKUP FEES	50,000	115,414	50,000	52,684	50,000	
5237500	RESERVE FUND CONTRIBUTION	0	0	87,819	0	0	
5237600	VICTOR SEWER FEES	135,000	159,292	142,524	101,016	175,000	
5237700	VICTOR CAPITAL EXP REIMB	0	0	20,000	13,463	20,000	
5237800	VICTOR WWTP DEBT SERVICE	205,648	205,648	205,648	102,824	205,648	Victor Totals
5238100	INTEREST INCOME	0	29,407	15,000	10,918	15,000	400,648
5238500	GRANTS: FEMA	0	0	53,456	0	0	FEMA Generator Grant
5238501	GRANTS: DEQ	50,000	24,000	25,000	0	0	
5238700	CAPITAL RESERVE FUNDS	0	0	0	0	0	
5238800	CONSTRUCTION WIP	0	0	0	0	0	
5238837	WWTP-VICTOR UPGRADE	20,000	8,290	0	0	0	
5238850	CONTRIBUTED CAPITAL - DEFERRED	0	0	0	0	0	
5238900	MISCELLANEOUS INCOME	3,500	800	0	0	0	
Total		1,256,148	1,338,994	1,415,207	684,019	1,333,973	
Expense							
WASTE WATER COLLECTIONS							
5280110	SALARIES AND WAGES	77,308	77,825	89,576	39,107	121,032	
5280111	COUNCIL SALARIES AND WAGES	5,525	6,250	14,635	3,781	14,635	
5280120	CAP FACILITIES PLANNING	0	0	0	0	0	
5280130	FICA & MEDICARE	6,337	6,212	7,972	3,174	10,379	
5280131	HEALTH INSURANCE	17,012	27,050	27,945	13,322	22,444	
5280132	RETIREMENT	9,505	9,619	12,443	5,121	16,199	
5280133	WORKERS COMPENSATION	3,600	3,037	3,245	3,396	3,400	
5280134	INSURANCE - MISC BENEFIT	0	0	0	0	0	
5280135	INSURANCE - ICRMP(1/4-Airport 10%)	7,738	7,738	8,528	8,338	9,125	0.25 of 90%
5280136	PENSION EXPENS (INCOME)	0	0	0	0	0	
5280190	CONTRACT LABOR	0	0	0	0	0	
5280200	FEES & CHARGES	500	142	3,000	242	1,500	
5280210	POSTAGE/PUBL/SUPPLIES	3,000	2,633	3,000	1,103	3,500	
5280211	POLICE SERVICES	4,125	0	4,125	0	4,125	Flat with FY20
5280240	TRAINING & TRAVEL	1,500	791	1,500	337	2,000	
5280245	SAFETY	1,000	676	1,200	297	1,000	
5280250	POWER - LIFT STATIONS	8,000	10,065	10,000	5,120	11,000	
5280251	WWTP - ELECTRIC/PROPANE	0	800	0	960	0	
5280265	SHOP OPERATIONS:GAS/ELEC	4,500	3,946	5,000	2,355	6,000	
5280309	ENGINEERING SERVICE	60,000	28,651	40,000	4,801	25,750	I/I Study Cont; SKM \$10K; \$750 TC GIS
5280310	LEGAL & PROFESSIONAL	4,080	1,906	4,080	0	4,080	
5280320	TELEPHONE	1,500	2,065	2,500	921	3,000	
5280410	LAB EQUIPMENT/REPAIRS	0	0	0	0	0	
5280455	CITY HALL PROJECT	0	0	0	0	0	
5280500	WW INTERCEPTOR	0	0	0	0	0	
5280501	EQUIPMENT	2,000	0	2,000	9	2,000	
5280610	CITY HALL OPERATIONS	5,000	3,610	5,000	2,655	5,000	\$2K Caselle
5280616	REPAIRS & MAINTENANCE	35,000	26,716	30,000	6,332	25,000	LS bkup pumps; I/I repair
5280617	COLLECTIONS SYSTEM UPGRADE	25,000	0	25,000	0	0	New Main
5280622	OPEN	0	0	0	0	0	
5280640	OUTREACH	0	0	631	0	1,000	
5280660	open	0	0	0	0	0	
5280670	BOND-RURAL DEV #93-03 '97 W&S	16,265	16,265	16,265	16,265	16,265	
5280690	OPEN	0	0	0	0	0	
5280720	BACKHOE TRADE-IN (1/3)	0	0	0	0	0	
5280730	MACHINE EQUIP HIRE	0	0	0	0	0	
5280734	CAPITAL EQUIPMENT PURCHASE (\$5K+)	10,000	0	10,000	0	10,000	
5280735	OPEN	0	0	0	0	0	
5280738	CAPITAL (Non-Equip) EXPENDITURES	0	10,143	71,275	0	40,000	Lift Station Baackup pumps Upgrade
5280739	HUNTSMAN INTERCEPTOR LINE	0	0	0	0	0	
5280740	SHOP MAINTENANCE(1/2)	1,500	2,427	1,500	1,097	1,500	
5280770	VEHICLE REPLACEMENT EXP	15,000	16,671	82,500	74,170	4,500	1/6 Skid Steer
5280790	DEPRECIATION	49,000	0	49,811	0	60,000	
5280800	BAD DEBT EXPENSE	2,000	1,651	2,500	0	2,500	
5280990	MISCELLANEOUS EXPENSE	0	0	0	9,030	0	
5280995	CONTINGENCY	0	0	0	0	7,077	

COLLECTIONS Expense	375,995	266,887	535,231	201,936	434,010	
Waste Water Treatment Plant (WWTP)						
5285110 SALARIES AND WAGES	66,761	81,220	130,661	62,451	116,971	
5285111 COUNCIL SALARIES AND WAGES	5,525	4,800	0	2,640	0	
5285130 FICA & MEDICARE	5,530	6,484	9,996	4,859	8,948	
5285131 HEALTH INSURANCE	9,616	12,913	22,773	13,024	27,666	
5285132 RETIREMENT	7,813	7,725	11,586	6,861	13,966	
5285200 FEES & CHARGES	376	0	400	6	0	
5285210 POSTAGE/PUBL/SUPPLIES	0	0	0	0	0	
5285211 POLICE SERVICES	4,125	0	4,125	0	4,125	Flat with FY20
5285213 WWTP INTERNET FOR SCADA	750	392	800	209	800	
5285240 TRAINING & TRAVEL	1,500	2,628	1,500	1,007	2,000	
5285245 SAFETY	1,500	547	1,000	974	1,000	
5285251 WWTP - ELECTRIC/PROPANE	70,000	72,467	80,000	34,631	75,000	
5285268 SHOP OPERATIONS: WWTP	1,000	3	1,000	586	1,500	
5285309 ENGINEERING SERVICE	80,000	35,862	40,000	7,801	45,000	Design & \$10K SKM
5285310 LEGAL & PROFESSIONAL	4,080	1,906	4,080	0	4,080	
5285311 WWTP: REPAIRS & MAINTENANCE	70,000	55,195	73,000	55,618	88,500	
5285312 WWTP CHEMICALS	3,000	0	0	0	0	
5285313 WWTP BIOLOGICAL ENHANCER	25,000	19,873	22,000	0	19,000	
5285320 TELEPHONE	1,500	440	1,000	677	1,500	
5285411 LAB TESTS- WWTP	4,000	6,823	8,000	4,253	9,000	
5285495 WWTP INTERIM UPGRADES	0	0	0	0	0	
5285501 EQUIPMENT	2,000	0	2,000	1,657	4,000	
5285610 CITY HALL OPERATIONS	3,000	429	3,000	216	3,000	\$2K Caselle
5285621 DEQ WWTP LOAN 2014 0%, 20 yrs	397,612	397,612	397,612	198,806	397,612	
5285640 OUTREACH	0	0	632	0	1,000	
5285720 BACKHOE TRADE-IN (1/3)	0	0	0	0	0	
5285730 MACHINE EQUIP HIRE	0	0	0	0	0	
5285734 CAPITAL EQUIP PURCHASE (\$5K+ Cost)	57,499	22,576	12,500	4,170	7,044	1/6 skid Steer \$4,500
5285737 WWTP VICTOR UPGRADE	0	0	0	0	0	
5285738 CAPITAL (Non-Equip) EXPENDITURES	1,000	0	1,000	151	1,000	
5285740 SHOP MAINTENANCE	1,500	1,293	1,500	376	1,500	
5285790 DEPRECIATION	55,466	0	49,811	0	60,000	
5285990 MISCELLANEOUS EXPENSE	0	0	0	0	0	
5285995 CONTINGENCY	0	0	0	0	5,750	
WWTP Expense	880,153	731,188	879,976	400,972	899,963	
Total Expense	1,256,148	998,075	1,415,207	602,908	1,333,973	
SUBTOTAL	0	340,919	0	81,110	(0)	
TRANSFER FROM RESERVE	0	0	0	0		
NET INCOME/(LOSS)	0	340,919	0	81,110	(0)	

Appendix C – Maps, Charts, Figures and Tables

DRIGGS, IDAHO (102676)

Period of Record Monthly Climate Summary

Period of Record : 08/01/1904 to 06/09/2016

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	29.3	33.7	40.2	51.5	61.9	70.9	80.6	79.2	70.0	57.8	41.1	31.2	53.9
Average Min. Temperature (F)	6.1	9.1	16.4	25.5	33.4	39.9	46.0	43.8	36.2	27.8	17.7	8.5	25.9
Average Total Precipitation (in.)	1.43	1.08	1.11	1.28	1.91	1.86	1.11	1.19	1.29	1.25	1.11	1.39	16.01
Average Total SnowFall (in.)	15.1	8.6	8.7	4.5	1.7	0.3	0.0	0.0	0.6	2.0	8.7	15.0	65.2
Average Snow Depth (in.)	12	14	7	1	0	0	0	0	0	0	1	6	3

Percent of possible observations for period of record.

Max. Temp.: 94.4% Min. Temp.: 94% Precipitation: 94.3% Snowfall: 83.3% Snow Depth: 49.9%

Appendix D – NPDES Permit

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101-3140

**Authorization to Discharge Under the
National Pollutant Discharge Elimination System**

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, the “Act”,

The City of Driggs

is authorized to discharge from the wastewater treatment plant located near Driggs, Idaho, at the following location(s):

Outfall	Receiving Water	Latitude	Longitude
001	Unnamed Tributary to Woods Creek	43° 43' 15"	111° 7' 45"

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective January 1, 2011.

This permit and the authorization to discharge shall expire at midnight, December 31, 2015.

The permittee shall reapply for a permit reissuance on or before July 4, 2015, 180 days before the expiration of this permit if the permittee intends to continue operations and discharges at the facility beyond the term of this permit.

Signed this 4th day of November, 2010.

/s/
Michael A. Bussell, Director
Office of Water and Watersheds

Schedule of Submissions

The following is a summary of some of the items the permittee must complete and/or submit to EPA during the term of this permit:

Item	Due Date
1. Discharge Monitoring Reports (DMR)	DMRs are due monthly and must be postmarked on or before the 10 th day of the month following the monitoring month (see III.B).
2. Quality Assurance Plan (QAP)	The permittee must provide EPA and Idaho Department of Environmental Quality (IDEQ) with written notification that the Plan has been developed and implemented by May 30, 2011 (see II.B). The Plan must be kept on site and made available to EPA and IDEQ upon request.
3. Operation and Maintenance (O&M) Plan	The permittee must provide EPA and IDEQ with written notification that the Plan has been developed and implemented by May 30, 2011 (see II.A). The Plan must be kept on site and made available to EPA and IDEQ upon request.
4. NPDES Application Renewal	The application must be submitted at least 180 days before the expiration date of the permit (see V.B).
5. Surface Water Monitoring Report	The Report must be submitted with the next permit application (see I.C).
6. Compliance Schedule	Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date (see III.J).
7. Twenty-Four Hour Notice of Noncompliance Reporting	The permittee must report certain occurrences of noncompliance by telephone within 24 hours from the time the permittee becomes aware of the circumstances. (See III.G and I.B.2.)
8. Emergency Response and Public Notification Plan	The permittee must provide EPA and IDEQ with written notification that the Plan has been developed and implemented by May 30, 2011 (see II.D). The Plan must be kept on site and made available to EPA and IDEQ upon request.

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I. Limitations and Monitoring Requirements

A. Discharge Authorization

During the effective period of this permit, the permittee is authorized to discharge pollutants from the outfalls specified herein to an unnamed tributary to Woods Creek, within the limits and subject to the conditions set forth herein. This permit authorizes the discharge of only those pollutants resulting from facility processes, waste streams, and operations that have been clearly identified in the permit application process.

B. Effluent Limitations and Monitoring

1. The permittee must limit and monitor discharges from outfall 001 as specified in Table 1, below. All figures represent maximum effluent limits unless otherwise indicated. The permittee must comply with the effluent limits in the tables at all times unless otherwise indicated, regardless of the frequency of monitoring or reporting required by other provisions of this permit.
2. The permittee must report within 24 hours any violation of the maximum daily limits or instantaneous maximum limits for the following pollutants: E. coli, total residual chlorine, and total ammonia as N. Violations of all other effluent limits are to be reported at the time that discharge monitoring reports are submitted (See III.B and III.H.).
3. The permittee must not discharge floating, suspended, or submerged matter of any kind in amounts causing nuisance or objectionable conditions or that may impair designated beneficial uses of the receiving water.
4. Removal Requirements for five-day biochemical oxygen demand (BOD₅) and total suspended solids (TSS): The monthly average effluent concentration must not exceed 35 percent of the monthly average influent concentration. Percent removal of BOD₅ and TSS must be reported on the Discharge Monitoring Reports (DMRs). For each parameter, the monthly average percent removal must be calculated from the arithmetic mean of the influent values and the arithmetic mean of the effluent values for that month. Influent and effluent samples must be taken over approximately the same time period.
5. The permittee must collect effluent samples from the effluent stream after the last treatment unit prior to discharge into the receiving waters.
6. Minimum Levels. For all effluent monitoring, the permittee must use methods that can achieve a minimum level (ML) less than the effluent limitation. For purposes of reporting on the DMR for a single sample, if a value is less than the Method Detection Limit (MDL), the permittee must report "less than {numeric value of the MDL}" and if a value is less than the ML, the permittee must report "less than {numeric value of the ML}."

Table 1: Effluent Limitations and Monitoring Requirements							
Parameter	Effluent Limitations				Monitoring Requirements		
	Units	Average Monthly Limit	Average Weekly Limit	Maximum Daily Limit	Sample Location	Sample Frequency	Sample Type
Flow	mgd	Report	—	Report	Influent or Effluent	continuous	recording
Temperature	°C	Report	—	Report	Effluent	1/week	grab
Biochemical Oxygen Demand (BOD ₅)	mg/L	45	65	—	Influent & Effluent	2/month	grab
	lb/day	225	325	—			calculation
	% removal	65% (min)	—	—	% removal	1/month	calculation
Total Suspended Solids (TSS)	mg/L	45	65	—	Influent & Effluent	2/month	grab
	lb/day	225	325	—			calculation
	% removal	65% (min)	—	—	% removal	1/month	calculation
E. Coli Bacteria ^{1,2}	#/100 ml	126 (geometric mean)	—	406 (instantaneous maximum)	Effluent	5/month	grab
pH	s.u.	6.5 – 9.0 at all times			Effluent	1/week	grab
Total Residual Chlorine ²	µg/L	12.4	—	17.8	Effluent	1/week	grab
	lb/day	0.062	—	0.089			calculation
Total Ammonia as N ^{2,3} (Final)	mg/L	0.84	—	1.68	Effluent	2/month	grab
	lb/day	4.2	—	8.4			calculation
Total Ammonia as N ³ (Interim)	mg/L	23	46	—	Effluent	2/month	grab
	lb/day	115	230	—			calculation
Alkalinity, Total	mg/L as CaCO ₃	Report	—	Report	Effluent	2/year	grab
Dissolved Oxygen	mg/L	Report	—	Report	Effluent	2/year	grab
Nitrate plus Nitrite	mg/L	Report	—	Report	Effluent	2/year	grab
Oil and Grease	mg/L	Report	—	Report	Effluent	2/year	grab
Total Dissolved Solids	mg/L	Report	—	Report	Effluent	2/year	grab
Total Kjeldahl Nitrogen	mg/L	Report	—	Report	Effluent	2/year	grab
Total Phosphorus as P	mg/L	Report	—	Report	Effluent	2/year	grab
<p>1. The average monthly E. Coli bacteria counts must not exceed a geometric mean of 126/100 ml based on a minimum of five samples taken every 3-7 days within a calendar month. No single sample may exceed 406 organisms per 100 ml. See Part VI for a definition of geometric mean.</p> <p>2. Reporting is required within 24 hours of a maximum daily limit or instantaneous maximum limit violation. See Parts I.B.2. and III.G.</p> <p>3. See Part I.D.</p>							

7. For purposes of calculating monthly averages except for E. coli, zero may be assigned for values less than the MDL, and the {numeric value of the MDL} may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report “less than {numeric value of the MDL}” and if the average value is less than the ML, the permittee must report “less than {numeric value of the ML}.” If a value is equal to or greater than the ML, the permittee must report and use the actual value.

C. Surface Water Monitoring

The permittee must conduct surface water monitoring. Surface water monitoring must start by March 31, 2011 and continue for as long as this permit remains in effect. The program must meet the following requirements:

1. Monitoring stations must be established in the unnamed stream to which the permittee discharges at the following locations:
 - a) Above the influence of the facility's discharge, and
 - b) Below the facility's discharge, at a point where the effluent and the receiving water are completely mixed.
2. The permittee must seek approval of the surface water monitoring stations from IDEQ.
3. A failure to obtain IDEQ approval of surface water monitoring stations does not relieve the permittee of the surface water monitoring requirements of this permit.
4. The permittee must measure flow in the receiving water on a monthly basis, at the upstream monitoring station.
5. The permittee must monitor dissolved oxygen in the receiving water on a quarterly basis, at both the upstream and downstream monitoring stations. Quarters are defined as January – March, April – June, July – September, and October – December.
6. Quality assurance/quality control plans for all the monitoring must be documented in the Quality Assurance Plan required under Part II.B., "Quality Assurance Plan".
7. Surface water monitoring results must be submitted to EPA and IDEQ with the application for renewal of this permit (see V.B.). At a minimum, the report must include the following:
 - a) Dates of sample collection and analyses.
 - b) Results of sample analysis.
 - c) Relevant quality assurance/quality control (QA/QC) information.

D. Schedule of Compliance

The permittee must comply with all effluent limitations and monitoring requirements in Part I.B of this permit immediately upon the effective date of this permit except the final effluent limitations for total ammonia as N.

1. The permittee must achieve compliance with the final effluent limits for total ammonia as N no later than October 1, 2013.
2. While the schedule of compliance is in effect, the permittee must comply with the following interim requirements:
 - a) The permittee must comply with the interim effluent limitations and monitoring requirements in Part I.B of this permit.

- b) By one year after the effective date of the final permit, and annually thereafter until compliance with the final effluent limits is achieved, the permittee must submit to EPA and IDEQ a report of progress toward completion of upgrades necessary to meet ammonia limits.
- c) On or before February 15, 2013, the permittee must complete any necessary studies and facility upgrades needed to comply with the final ammonia limits and demonstrate that it can meet those limits.

II. Special Conditions

A. Operation and Maintenance Plan

In addition to the requirements specified in Part IV.E of this permit (Proper Operation and Maintenance), the permittee must develop and implement an operation and maintenance (O&M) plan for the wastewater treatment facility. The permittee must submit written notice to EPA and IDEQ within by May 30, 2011 that the plan has been developed and implemented. Any existing O&M plan may be modified for compliance with this section. The plan shall be retained on site and made available on request to EPA and IDEQ.

B. Quality Assurance Plan (QAP)

The permittee must develop and implement a quality assurance plan (QAP) for all monitoring required by this permit. The permittee must submit written notice to EPA and IDEQ by May 30, 2011 that the Plan has been developed and implemented. Any existing QAPs may be modified for compliance with this section.

1. The QAP must be designed to assist in planning for the collection and analysis of effluent and receiving water samples in support of the permit and in explaining data anomalies when they occur.
2. Throughout all sample collection and analysis activities, the permittee must use the EPA-approved QA/QC and chain-of-custody procedures described in *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5). The QAP must be prepared in the format that is specified in these documents.
3. At a minimum, the QAP must include the following:
 - a) Details on the number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements.
 - b) Map(s) indicating the location of each sampling point.
 - c) Qualification and training of personnel.

- d) Name(s), address(es) and telephone number(s) of the laboratories used by or proposed to be used by the permittee.
- 4. The permittee must amend the QAP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAP.
- 5. Copies of the QAP must be kept on site and made available to EPA and/or IDEQ upon request.

C. Control of Undesirable Pollutants and Industrial Users

- 1. The permittee must require any industrial user discharging to its treatment works to comply with any applicable requirements of 40 CFR 403 through 471.
- 2. The permittee must not allow introduction of the following pollutants into the POTW:
 - a) Pollutants which create a fire or explosion hazard in the POTW, including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit (°F) or 60 degrees Centigrade (°C) using the test methods specified in 40 CFR 261.21.
 - b) Pollutants which will cause corrosive structural damage to the POTW, but in no case Discharges with pH lower than 5.0, unless the POTW is specifically designed to accommodate such Discharges.
 - c) Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in Interference.
 - d) Any pollutant, including oxygen demanding pollutants (BOD, etc.) released in a Discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW.
 - e) Heat in amounts which will inhibit biological activity in the POTW resulting in Interference, but in no case heat in such quantities that the temperature at the POTW Treatment Plant exceeds 40 °C (104 °F) unless the Director of the Office of Water and Watersheds, upon request of the POTW, approves alternate temperature limits.
 - f) Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through.
 - g) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems.
 - h) Any trucked or hauled pollutants, except at discharge points designated by the POTW.
 - i) Any pollutant which causes “Pass Through” or “Interference.” See Part VI of the permit.

D. Emergency Response and Public Notification Plan

1. The permittee must develop and implement an overflow emergency response and public notification plan that identifies measures to protect public health from overflows that may endanger health and unanticipated bypasses or upsets that exceed any effluent limitation in the permit. At a minimum the plan must include mechanisms to:
 - a) Ensure that the permittee is aware (to the greatest extent possible) of all overflows from portions of the collection system over which the permittee has ownership or operational control and unanticipated bypass or upset that exceed any effluent limitation in the permit;
 - b) Ensure appropriate responses including assurance that reports of an overflow or of an unanticipated bypass or upset that exceed any effluent limitation in the permit are immediately dispatched to appropriate personnel for investigation and response;
 - c) Ensure immediate notification to the public, health agencies, and other affected public entities (including public water systems). The overflow response plan must identify the public health and other officials who will receive immediate notification;
 - d) Ensure that appropriate personnel are aware of and follow the plan and are appropriately trained; and
 - e) Provide emergency operations.
2. The permittee must submit written notice to EPA and IDEQ by May 30, 2011 that the plan has been developed and implemented. Any existing emergency response and public notification plan may be modified for compliance with this section.

III. Monitoring, Recording and Reporting Requirements**A. Representative Sampling (Routine and Non-Routine Discharges)**

Samples and measurements must be representative of the volume and nature of the monitored discharge.

In order to ensure that the effluent limits set forth in this permit are not violated at times other than when routine samples are taken, the permittee must collect additional samples at the appropriate outfall whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The permittee must analyze the additional samples for those parameters limited in Part I.B. of this permit that are likely to be affected by the discharge.

The permittee must collect such additional samples as soon as the spill, discharge, or bypassed effluent reaches the outfall. The samples must be analyzed in accordance with Part III.C ("Monitoring Procedures"). The permittee must report all additional monitoring in accordance with Part III.D ("Additional Monitoring by Permittee").

B. Reporting of Monitoring Results**1. Paper Copy Submissions**

The permittee must summarize monitoring results each month on the DMR form (EPA No. 3320-1) or equivalent. The permittee must submit reports monthly, postmarked by the 10th day of the following month. The permittee must sign and certify all DMRs, and all other reports, in accordance with the requirements of Part V.E (“Signatory Requirements”) of this permit. The permittee must submit the legible originals of these documents to the Director, Office of Compliance and Enforcement, with copies to IDEQ at the following addresses:

US EPA Region 10
Attn: ICIS Data Entry Team
1200 Sixth Avenue
Suite 900 M/S OCE-133
Seattle, Washington 98101-3140

Idaho Department of Environmental Quality
900 N. Skyline, Suite B
Idaho Falls, ID 83402
(208) 528-2650

2. Electronic submissions

If, during the period when this permit is effective, EPA makes electronic reporting available, the permittee may submit reports electronically, following guidance provided by EPA according to the same due dates in Part III.B.1, above. The permittee must certify all DMRs and all other reports in accordance with the requirements of Part V.E (“Signatory Requirements”). The permittee must retain the legible originals of these documents and make them available, upon request, to the EPA Region 10 Director, Office of Compliance and Enforcement.

C. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures have been specified in this permit or approved by EPA as an alternate test procedure under 40 CFR 136.5.

D. Additional Monitoring by Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the permittee must include the results of this monitoring in the calculation and reporting of the data submitted in the DMR.

Upon request by EPA, the permittee must submit results of any other sampling, regardless of the test method used.

E. Records Contents

Records of monitoring information must include:

1. the date, exact place, and time of sampling or measurements;
2. the name(s) of the individual(s) who performed the sampling or measurements;
3. the date(s) analyses were performed;
4. the names of the individual(s) who performed the analyses;
5. the analytical techniques or methods used; and
6. the results of such analyses.

F. Retention of Records

The permittee must retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of DMRs, a copy of the NPDES permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of EPA or IDEQ at any time.

G. Twenty-four Hour Notice of Noncompliance Reporting

1. The permittee must report the following occurrences of noncompliance by telephone within 24 hours from the time the permittee becomes aware of the circumstances:
 - a) any noncompliance that may endanger human health or the environment;
 - b) any unanticipated bypass that exceeds any effluent limitation in the permit (See Part IV.F., "Bypass of Treatment Facilities");
 - c) any upset that exceeds any effluent limitation in the permit (See Part IV.G., "Upset Conditions"); or
 - d) any violation of a maximum daily discharge limitation for applicable pollutants identified by Part I.B.2.
 - e) any overflow prior to the treatment works over which the permittee has ownership or has operational control. An overflow is any spill, release or diversion of municipal sewage including:
 - (i) an overflow that results in a discharge to waters of the United States; and
 - (ii) an overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral) that does not reach waters of the United States.
2. The permittee must also provide a written submission within five days of the time that the permittee becomes aware of any event required to be reported under subpart 1 above. The written submission must contain:

- a) a description of the noncompliance and its cause;
 - b) the period of noncompliance, including exact dates and times;
 - c) the estimated time noncompliance is expected to continue if it has not been corrected; and
 - d) steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
 - e) if the noncompliance involves an overflow, the written submission must contain:
 - (i) The location of the overflow;
 - (ii) The receiving water (if there is one);
 - (iii) An estimate of the volume of the overflow;
 - (iv) A description of the sewer system component from which the release occurred (e.g., manhole, constructed overflow pipe, crack in pipe);
 - (v) The estimated date and time when the overflow began and stopped or will be stopped;
 - (vi) The cause or suspected cause of the overflow;
 - (vii) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
 - (viii) An estimate of the number of persons who came into contact with wastewater from the overflow; and
 - (ix) Steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps.
3. The Director of the Office of Compliance and Enforcement may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the NPDES Compliance Hotline in Seattle, Washington, by telephone, (206) 553-1846.
4. Reports must be submitted to the addresses in Part III.B (“Reporting of Monitoring Results”).

H. Other Noncompliance Reporting

The permittee must report all instances of noncompliance, not required to be reported within 24 hours, at the time that monitoring reports for Part III.B (“Reporting of Monitoring Results”) are submitted. The reports must contain the information listed in Part III.G.2 of this permit (“Twenty-four Hour Notice of Noncompliance Reporting”).

I. Public Notification

The permittee must immediately notify the public, health agencies and other affected entities (e.g., public water systems) of any overflow which the permittee owns or has

operational control; or any unanticipated bypass or upset that exceeds any effluent limitation in the permit in accordance with the notification procedures developed in accordance with Part III.G.

J. Notice of New Introduction of Toxic Pollutants

The permittee must notify the Director of the Office of Water and Watersheds and IDEQ in writing of:

1. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to Sections 301 or 306 of the Act if it were directly discharging those pollutants; and
2. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
3. For the purposes of this section, adequate notice must include information on:
 - a) The quality and quantity of effluent to be introduced into the POTW, and
 - b) Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.
4. The permittee must notify the Director of the Office of Water and Watersheds at the following address:

US EPA Region 10
Attn: NPDES Permits Unit Manager
1200 Sixth Avenue
Suite 900 M/S OWW-130
Seattle, WA 98101-3140

IV. Compliance Responsibilities

A. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

B. Penalties for Violations of Permit Conditions

1. Civil and Administrative Penalties. Pursuant to 40 CFR Part 19 and the Act, any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461

note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$37,500 per day for each violation).

2. **Administrative Penalties.** Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Pursuant to 40 CFR 19 and the Act, administrative penalties for Class I violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$16,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$37,500). Pursuant to 40 CFR 19 and the Act, penalties for Class II violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$16,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$177,500).
3. **Criminal Penalties:**
 - a) **Negligent Violations.** The Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than 2 years, or both.
 - b) **Knowing Violations.** Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both.
 - c) **Knowing Endangerment.** Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to

a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

- d) False Statements. The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

C. Need To Halt or Reduce Activity not a Defense

It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.

D. Duty to Mitigate

The permittee must take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance

The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Bypass of Treatment Facilities

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for

essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2 and 3 of this Part.

2. Notice.

- a) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it must submit prior written notice, if possible at least 10 days before the date of the bypass.
- b) Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required under Part III.G (“Twenty-four Hour Notice of Noncompliance Reporting”).

3. Prohibition of bypass.

- a) Bypass is prohibited, and the Director of the Office of Compliance and Enforcement may take enforcement action against the permittee for a bypass, unless:
 - (i) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and
 - (iii) The permittee submitted notices as required under paragraph 2 of this Part.
- b) The Director of the Office of Compliance and Enforcement may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 3.a. of this Part.

G. Upset Conditions

- 1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the permittee meets the requirements of paragraph 2 of this Part. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- 2. Conditions necessary for a demonstration of upset. To establish the affirmative defense of upset, the permittee must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b) The permitted facility was at the time being properly operated;

- c) The permittee submitted notice of the upset as required under Part III.G, “Twenty-four Hour Notice of Noncompliance Reporting;” and
 - d) The permittee complied with any remedial measures required under Part IV.D, “Duty to Mitigate.”
3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

H. Toxic Pollutants

The permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

I. Planned Changes

The permittee must give written notice to the Director of the Office of Water and Watersheds as specified in Part III.I.4. and IDEQ as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

- 1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29(b); or
- 2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this permit.
- 3. The alteration or addition results in a significant change in the permittee’s sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application site.

J. Anticipated Noncompliance

The permittee must give written advance notice to the Director of the Office of Compliance and Enforcement and IDEQ of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

K. Reopener

This permit may be reopened to include any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the Act. The Director may modify or revoke and reissue the permit if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

V. General Provisions

A. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 122.62, 122.64, or 124.5. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

B. Duty to Reapply

If the permittee intends to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. In accordance with 40 CFR 122.21(d), and unless permission for the application to be submitted at a later date has been granted by the Regional Administrator, the permittee must submit a new application at least 180 days before the expiration date of this permit.

C. Duty to Provide Information

The permittee must furnish to EPA and IDEQ, within the time specified in the request, any information that EPA or IDEQ may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee must also furnish to EPA or IDEQ, upon request, copies of records required to be kept by this permit.

D. Other Information

When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to EPA or IDEQ, it must promptly submit the omitted facts or corrected information in writing.

E. Signatory Requirements

All applications, reports or information submitted to EPA and IDEQ must be signed and certified as follows.

1. All permit applications must be signed as follows:
 - a) For a corporation: by a responsible corporate officer.
 - b) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
 - c) For a municipality, state, federal, Indian tribe, or other public agency: by either a principal executive officer or ranking elected official.
2. All reports required by the permit and other information requested by EPA or IDEQ must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- a) The authorization is made in writing by a person described above;
 - b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; and
 - c) The written authorization is submitted to the Director of the Office of Compliance and Enforcement and IDEQ.
3. Changes to authorization. If an authorization under Part V.E.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part V.E.2. must be submitted to the Director of the Office of Compliance and Enforcement and IDEQ prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this Part must make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

F. Availability of Reports

In accordance with 40 CFR 2, information submitted to EPA pursuant to this permit may be claimed as confidential by the permittee. In accordance with the Act, permit applications, permits and effluent data are not considered confidential. Any confidentiality claim must be asserted at the time of submission by stamping the words “confidential business information” on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice to the permittee. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR 2, Subpart B (Public Information) and 41 Fed. Reg. 36902 through 36924 (September 1, 1976), as amended.

G. Inspection and Entry

The permittee must allow the Director of the Office of Compliance and Enforcement, EPA Region 10; IDEQ; or an authorized representative (including an authorized

contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

H. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, nor any infringement of federal, tribal, state or local laws or regulations.

I. Transfers

This permit is not transferable to any person except after written notice to the Director of the Office of Water and Watersheds as specified in Part III.I.4. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act. (See 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory).

J. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Act.

VI. Definitions

1. "Act" means the Clean Water Act.
2. "Administrator" means the Administrator of the EPA, or an authorized representative.
3. "Average monthly discharge limitation" means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

4. "Average weekly discharge limitation" means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.
5. "Best Management Practices" (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas.
6. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
7. "Composite" - see "8-hour composite".
8. "Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.
9. "Director of the Office of Compliance and Enforcement" means the Director of the Office of Compliance and Enforcement, EPA Region 10, or an authorized representative.
10. "Director of the Office of Water and Watersheds" means the Director of the Office of Water and Watersheds, EPA Region 10, or an authorized representative.
11. "DMR" means discharge monitoring report.
12. "EPA" means the United States Environmental Protection Agency.
13. "Geometric Mean" means the n^{th} root of a product of n factors, or the antilogarithm of the arithmetic mean of the logarithms of the individual sample values.
14. "Grab" sample is an individual sample collected over a period of time not exceeding 15 minutes.
15. "IDEQ" means the Idaho Department of Environmental Quality.
16. "Interference" is defined at 40 CFR 403.3.
17. "Maximum daily discharge limitation" means the highest allowable "daily discharge."
18. "Method Detection Limit (MDL)" means the minimum concentration of a substance (analyte) that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.

19. "Minimum Level (ML)" means the concentration at which the entire analytical system must give a recognizable signal and an acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed.
20. "NPDES" means National Pollutant Discharge Elimination System, the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits . . . under sections 307, 402, 318, and 405 of the CWA.
21. "Pass Through" means a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).
22. "QA/QC" means quality assurance/quality control.
23. "Regional Administrator" means the Regional Administrator of Region 10 of the EPA, or the authorized representative of the Regional Administrator.
24. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
25. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

Appendix E – Service Agreements

DRIGGS/VICTOR

**INTER-CITY AGREEMENT
FOR WASTEWATER TREATMENT SERVICES**

This AGREEMENT, made and entered into the ⁺¹⁰30 day of SEPTEMBER, 2011, by and between the City of Driggs an Idaho Municipal Corporation, hereinafter referred to as "**Driggs**", and the City of Victor, an Idaho Municipal Corporation, hereinafter referred to as "**Victor**".

WITNESSETH

WHEREAS, the parties hereto entered into a similar agreement on October 13, 1999, which they have operated under since such date (the "Former Agreement") and now wish to replace with this Agreement; and

WHEREAS, **Victor** has no wastewater treatment facility and the governing body of said City desires to provide a wastewater collection and treatment facility for **Victor** and the surrounding area; and

WHEREAS **Driggs** has a wastewater lagoon and treatment facility hereinafter collectively referred to as "Wastewater Facilities", and said Wastewater Facilities are presently being improved and will be of sufficient size and capable of receiving and treating the anticipated wastewater from **Victor** and the surrounding regional area; and

WHEREAS, the parties to this Agreement desire to enter into an agreement in writing, which shall supersede and replace the Former Agreement, whereby **Driggs** will accept and treat the anticipated wastewater from Victor and the surrounding regional area delivered to a point to be identified and known hereinafter as the "Major Collection Point";

NOW THEREFORE, in consideration of the mutual covenants and undertakings hereinafter stated, to which each party hereby binds and commits itself, it is agreed as follows:

- 1) **2010-2011 Reconstruction.** Driggs agrees that it will bond for and pay all costs associated with reconstruction of the existing facility using funds identified in the Judicial Confirmation which occurred on January 18, 2011, which it is anticipated will include a zero percent interest loan with approximately Two Million Five Hundred Thousand and 00/100 Dollars of debt forgiveness from the Idaho DEQ (the "Loan"). The debt service to be passed through to the users of Victor shall be from this bond, and the 1999 sewer reconstruction bond which has an approximately \$760,000.00 unpaid principal balance, until such time as additional debt may be required to be incurred as set forth in this Agreement. Reconstruction of the existing facility is projected to result in a facility that can

service all the waste water needs for both parties consistent with the study conducted by Aqua Engineering, Inc in 2009 which was an addendum to the earlier Nelson Engineering study. The initial capacity shall be at least 900,000 gallons per day for all users.

2) **Trunk Line.**

A) Pursuant to the Former Agreement Victor installed at its sole expense a trunk line extending from its wastewater collection system to a manhole located at manhole 35T per the 1999 plans, and **Driggs** installed at its sole expense a trunk line extending from its pressure line to a manhole located at station 212+00, a point approximately midway between **Victor** and **Driggs** (together the "Trunk Line"). The cost of the manhole located at this point was paid for by **Victor**. This point, at station 212+00 is known as the "Major Collection Point".

B) Any connections made to the Trunk Line outside and inside the corporate limits of **Victor**, and up flow from the Major Collection Point, shall be assessed a connection fee per equivalent residential unit for the purpose of funding capital improvements, and **Victor** shall have the obligation and responsibility to collect this fee up flow from the Major Collection Point. Any connections made to the Trunk Line outside the corporate limits of **Driggs**, and down flow from the Major Collection Point, shall be assessed a connection fee per equivalent residential unit for the purpose of funding capital improvement, and **Driggs** shall have the obligation and responsibility to collect this fee down flow from the Major Collection Point.

C) Victor and Driggs have agreed to make certain upgrades to the Trunk Line. Driggs agrees to provide the necessary funds for these upgrades of the Trunk Line through the Loan, with the debt service of any such increase specifically attributable to the Trunk Line to be borne by the Victor and Driggs users pro-rata based on the ration set forth in section 5 below.

D) Victor and Driggs both agree that they shall clean and hydrowash their respective portions of the Trunk Line at least once every year. In addition, both Victor and Driggs agree that they shall video their respective portions of the Trunk Line at least once every year.

3) **Cost Sharing of Treatment Facility Capital Improvements.**

A) After the 2010-2011 reconstruction, in the event further capital improvements to the **Driggs** wastewater treatment facilities are required, including, but not limited to, increasing the capacity of the lagoons, adding a new lagoon, meeting a government mandate, or other expansion to increase capacity, both hydraulic or biological, Victor shall have the option of either:

i. Sharing in such costs. The formula for sharing the cost for such

improvements shall be based upon the total volume of wastewater **Victor** has in the 12 month period immediately preceding the letting of a bid for such improvements, as measured at the Major Collection Point compared to the total volume of wastewater **Driggs** has for the same time period, as measured at the treatment facilities. **Victor** shall keep accurate records of flow at the Major Collection Point and make the same available to **Driggs** upon request. **Driggs** shall keep accurate records of flow at the treatment plant influent flow meter station and make the same available to **Victor** upon request. In the event Victor agrees to share in such costs the terms of this Agreement shall be modified such that Victor is comfortable that the capital expenditure they make in the facilities is commensurate with the terms of this Agreement, or

ii. Not participating in the sharing of such capital costs while having Driggs pass through Victor's proportionate share of the debt service of such costs pursuant to the terms of this Agreement.

B. In the event the parties agree to terminate this agreement, Victor would be given ample time to create a solution for their waste water needs before the Agreement came to an end. In no such event shall this Agreement be terminated if Driggs agrees to pay for the cost of such improvements, in which case the treatment fees shall be appropriately adjusted. Any such adjustment shall be made based on the useful life of the improvements so that Victor pays their pro-rata share of the straight line amortization (based on the improvements useful life) of such improvements, at the same interest rate Driggs may pay for the bonding of any such improvements, for as long as this Agreement is in effect.

C. Victor shall be able to review any proposed capital project, and shall be notified when any project underway goes over its previously reviewed budget. All capital improvements must be billed to Victor in a detailed fashion on at least a quarterly basis.

- 4) **Measuring Devices**. The measuring device installed at the Major Collection Point is owned and under the control and maintained by Victor. Victor agrees to continue paying the cost and expense of maintaining such device and **Driggs** shall have the right to verify the meter readings and otherwise inspect said device at anytime. Measuring devices located within **Driggs** collection system, or at the Wastewater Facilities are owned and under the control and maintained by **Driggs**. **Driggs** agrees to continue paying the cost and expense of maintaining such device and Victor shall have the right to verify the meter readings and otherwise inspect said devices at anytime. On a quarterly basis, or as requested by either party hereto, the two measuring devices shall be reconciled against one another or an external device if so desired. Each party shall pay for the recalibration of their own device.

- 5) **Connections.** Any single connection in excess of ten (10) equivalent residential units made to the trunk line and collection systems outside and inside of the City limits of **Driggs** and **Victor** shall be made only with the express written consent of both cities which consent shall not be unreasonably withheld. If at any time, the Trunk Line reaches its capacity as a result of additional flows, then both cities shall share in the cost of installing larger lines where necessary. The ratio of participation shall be based on the number of equivalent residential units each party has connected to the Trunk Line, which have contributed to the need for a larger line. If the parties hereto are not able to agree on the proportional ratios, an in stream flow calculation shall be taken manually at the point the Trunk Line connects with the **Driggs** system, and the proportional ratios shall be based upon the actual flows, with the cost of such measurement being shared in the same proportions as are determined for the line increase.
- 6) **Termination - Reimbursement** In the event **Victor** participates in adding capital improvements to the treatment facilities only as indicated above, and then for some reason this Agreement is terminated and Victor no longer uses **Driggs'** Wastewater Facilities, then **Driggs** agrees to reimburse Victor for its share of said added capital improvement costs less depreciation based upon the average estimated life of said improvements and the number of years said improvements have been in existence as of the date **Victor** discontinues its use of **Driggs'** Wastewater Facilities.
- 7) **Service Area Restrictions.** **Driggs** agrees to accept the wastewater passed through the measuring device at the Major Collection Point and from said point to be solely responsible for conveying said wastewater to the **Driggs** Wastewater Facilities and for the treatment and disposal of said wastewater. However, **Driggs** reserves the right to accept or not to accept wastewater from **Victor** if it is determined that the source of any wastewater is in violation of any applicable State or Federal Regulations. **Driggs** shall be responsible for insuring that all sources within the **Driggs** system are in compliance as well, and will have the right to reject any and all wastewater, whether from **Victor** or **Driggs** if the residence, business or other source shall cause a violation of State or Federal regulations.
- 8) **Treatment Fees.**
- A) Except as otherwise herein stated, **Victor** agrees to pay **Driggs** and **Driggs** agrees to accept from Victor, as sole consideration for **Driggs** accepting, conveying, treating, and disposing of wastewater a regular fee for each one thousand (1000) gallons of wastewater measured at the Major Collection Point. Said fee shall be in the same amount that Driggs pays for each one thousand (1000) gallons of waste water. Said fee shall be paid monthly on or before the 10th day of each month for the prior month, commencing with the month following the first month that

wastewater is delivered to the Major Collection Point by Victor. The fee is to be established and approved annually by both cities by resolution. All such fees shall be based on actual costs incurred in running the facilities.

B) If any of the rates charged by **Driggs** to **Victor** hereunder are found to be in violation of law or unenforceable, and this situation cannot be retroactively remedied to the satisfaction of both parties, then this Agreement shall become immediately terminable by either party and may be so terminated upon giving the other party a written notice of its intent to so terminate, and the date upon which such termination shall take effect, provided however, that it can be no sooner than the later of one year from the date of notice or such date as allows Victor to establish another means for handling their waste water.

C) All operation and maintenance costs shall be identified and delineated by Driggs'. Prior to incurring a material increase in such costs Driggs' shall consult with Victor. All employees, consultants, and independent agents of Driggs' whose time is charged against operation or maintenance of the facilities shall be appropriately pro rated between such maintenance and operation and other duties outside the scope of such operation and maintenance.

D) On at least an annual basis, at a date to be determined by Victor and Driggs, the books and records relating to the ownership, maintenance, and operation of the Wastewater Facilities shall be audited by an independent auditor. The scope of such audit shall include but not be limited to the pass through of all fees and other costs passed through to Victor as well as the status of all outstanding debt relating to the Wastewater Facilities. This audit may be performed by the Driggs independent audit firm and the cost shall be born equally by Victor and Driggs.

E) In the event it is determined that a measuring device is inaccurate and has caused either party to this Agreement to pay more or less than what would have been paid had such device been accurate, then such payments shall be retroactively adjusted by virtue of a credit to forthcoming fees due under this Agreement. In no such event shall such adjustments be made retroactively for more than a 12 month period.

- 9) **Equitable Allocation**. The parties hereto agree that the fee structure contained in this Agreement creates an equitable allocation with all revenues being delegated to repairs, replacement, and maintenance of the facilities and its components in proportion to that used by each party's users.

- 10) **Wastewater Strength**. The parties hereto shall establish in writing a set of

"Capacity Limits" and "Capacity Charges". In the event that either Driggs or Victor users causes the facilities to be burdened with effluent beyond the Capacity Limits, then such municipality shall pay the commensurate Capacity Charge. For the purpose of controlling the amount of organic load of wastewater coming from pollution sources within the total system, it is agreed that **Victor and Driggs** will comply with the Environmental Protection Agency (EPA) requirements for pretreatment standards for existing and new sources of pollution, and the establishment of user charges associated with the treatment of the industrial wastewater. Driggs shall copy Victor on any violation notices and other DEQ, EPA, and other agencies correspondence. **Victor and Driggs** hereby agree to share the necessary cost data to enable the calculation of the costs associated with the treatment of the residential, commercial and industrial wastewater over and above the cost mentioned elsewhere in this Agreement. If at any time, the EPA or any other Federal or State agency requires that wastewater treatment costs should be calculated by some formula other than as herein set forth, then both **Victor and Driggs** agree that this Agreement shall be amended so that its fee structure meets said requirement if necessary.


- 11) **Uniform Rules**. **Victor and Driggs** agree that wherever practicable, uniform rules and regulations will be established, including but not limited to the discharge of harmful substances into the wastewater system in excess of minimum standards prescribed; to prohibit storm, surface, or groundwater from entering the wastewater system; and to provide adequate inspection of building, wastewater, and street construction to prevent such from entering the wastewater system.
- 12) **Fee Adjustment** Except as mentioned above, it is further agreed that the fees chargeable to **Victor** by **Driggs** may be adjusted only by reason of an adjustment of charges to **Driggs** users for increase in the operation and maintenance for the treatment of wastewater as of the date of this Agreement. Said current charges for treatment are attached hereto and marked "Exhibit A". Further, such an adjustment in fees is equal for **Driggs** and **Victor** unless special circumstances exist which would make collection and treatment of either **Victor** or **Driggs** users more expensive.
- 13) **Terms**. This Agreement shall remain in effect for a period of Twenty (20) years from the date hereof. Victor shall have two (2) options to extend for five (5) years each. In order to exercise such option periods Victor must give written notice to Driggs of its intent to exercise such option no less than 120 days prior to the expiration of the Agreement. It shall then continue in effect for additional two (2) year periods thereafter unless terminated by either party by giving the other party a notice of intent to terminate, provided, however, after the initial term and any option term, no less than two (2) year notice must be given to terminate.
- 14) **Adoption and Enforcement of Ordinances**. **Victor** agrees to adopt rules and

ordinances similar to those of **Driggs** as they presently exist and as they may from time to time be amended or added upon, governing the discharge of water or materials of any kind into **Victors** collection system and to administer and enforce said rules or ordinances. Nothing herein shall, however, require **Victor** to require the removal by its residents of septic tanks, the use of which are discontinued when users connect to **Victors** wastewater collection system.

- 15) **Damages**. All costs, damages, and expenses, including but not limited to administration costs, attorney's fees, and the reasonable value of equipment and employee time incurred by either party to this agreement because of other party's or its residents' failure to abide by this Agreement or failure to comply with applicable rules and ordinances regulating discharge of materials into the wastewater collection system, shall be borne and paid by the party whose discharge creates or causes the damage.
- 16) **Surplus Revenues**. Both **Victor** and **Driggs** may utilize any surplus revenues from their wastewater budgets to meet any financial obligations they may have under this Agreement if their present budgets are inadequate to meet said needs. For the fiscal years following, each party will adopt appropriate wastewater budgets or utilize appropriate bonding methods to finance the costs of services rendered or improvements contemplated by this Agreement, however, either party may continue to use waste water reserves to meet such financial obligations.
- 17) **Liabilities**. Each party shall be responsible for their own collection system and trunk lines and each agrees to indemnify and hold the other harmless for loss, damage, demands, or claims of any kind arising from their own actions or neglect.
- 18) **Insurance**. Driggs agrees to maintain full replacement cost insurance and state required liability insurance for the facilities. Driggs also agrees to have Victor named as an additional insured on all such policies.
- 19) **Operator in Training and Access**. Victor shall be permitted to have one of its public works employees act in the role of an operator in training under the applicable Idaho DEQ regulations. In addition, Victor shall be permitted access to the facilities at all times.
- 20) **SEVERABILITY**. If any provision of this Contract is declared illegal, void or unenforceable, the remaining provisions herein will not be affected and will remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials this Agreement in duplicate on the respective dates indicated below.

CITY OF DRIGGS, IDAHO CITY OF VICTOR, IDAHO

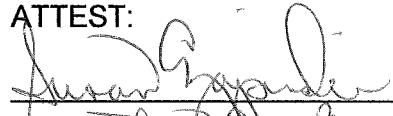
by 
Dan Powers, Mayor

by 
Scott Fitzgerald, Mayor

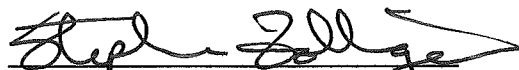
ATTEST:


City Clerk City Clerk - Deputy

ATTEST:


Deputy Clerk

THIS AGREEMENT as executed is hereby approved as being in proper form and compatible with the laws of the State of Idaho.


STEPHEN ZOLLINGER, Authorized Attorney
for the City of Driggs


Herbert Heimerl, Authorized Attorney
for the City of Victor

Appendix F – Idaho Species



U.S. Fish and Wildlife Service

Idaho Fish and Wildlife Office

ENDANGERED

Southern Selkirk Mountains woodland caribou (*Rangifer tarandus caribou*)¹
Yellow-billed cuckoo (*Coccyzus americanus*)²
Kootenai River white sturgeon (*Acipenser transmontanus*)¹
Snake River sockeye salmon (*Oncorhynchus nerka*)^{1,3}
Banbury Springs limpet (*Lanx* sp.)
Bruneau hot springsnail (*Pyrgulopsis bruneauensis*)
Snake River physa snail (*Haitia (Physa) natricina*)

THREATENED

Canada lynx (*Lynx canadensis*)¹
Grizzly bear (*Ursus arctos horribilis*)
Northern Idaho ground squirrel (*Urocitellus brunneus*)
North American wolverine (*Gulo gulo luscus*) - *Proposed threatened*
Bull trout (*Salvelinus confluentis*)¹
Fall chinook salmon (*Oncorhynchus tshawytscha*)^{1,3}
Spring/summer chinook salmon (*Oncorhynchus tshawytscha*)^{1,3}
Steehead trout (*Oncorhynchus mykiss*)^{1,3}
Bliss Rapids snail (*Taylorconcha serpenticola*)
MacFarlane's four-o'clock (*Mirabilis macfarlanei*)
Spalding's catchfly (*Silene spaldingii*)
Slickspot peppergrass (*Lepidium papilliferum*)²
Ute ladies'-tresses (*Spiranthes diluvialis*)
Water howellia (*Howellia aquatilis*)

CANDIDATE

Whitebark pine (*Pinus albicaulis*)



Bliss Rapids snail (photo credit: Dave Hopper, USFWS)



Southern Selkirk Mountains woodland caribou (photo credit: Steve Forrest, USFWS)



MacFarlane's four-o'clock (photo credit: Mark Lowry)

Delisted/Recovered

Bald eagle (*Haliaeetus leucocephalus*)
Gray wolf (*Canis lupus*)
Idaho springsnail (*Pyrgulopsis idahoensis*)
Peregrine falcon (*Falco peregrinus*)
Utah valvata snail (*Valvata utahensis*)

Removed from the Candidate List

Christ's Paintbrush (*Castilleja christii*)
Columbia spotted frog, Great Basin population (*Rana luteiventris*)
Goose creek milkvetch (*Astragalus anserinus*)
Greater sage-grouse (*Centrocercus urophasianus*)
Packard's milkvetch (*Astragalus cusickii* var. *packardiae*)
Southern Idaho ground squirrel (*Spermophilus brunneus endemicus*)

¹Designated Critical Habitat

²Proposed Critical Habitat

³Species is under the jurisdiction of the National Marine Fisheries Service

Appendix G – NPDES WRF Inspection Report

NPDES ID(s): ID0020141
State: ID
Major/Minor Indicator:
Violation Date: 01/01/2015 - 12/09/2020
Violation Type(s): DMR Non-Receipt Violation;Effluent
Violation;Schedule Violation;Single Event Violation

Environmental Protection Agency
Integrated Compliance Information System
Violations Report

Created Date: 09/15/2010
Refresh Date: 12/09/2020
Report Version 1.5, Modified: 1/4/2017

ID0020141

Permittee Name:	DRIGGS, CITY OF	Primary SIC Code:	4952	Permit Issued:	11/04/2010
Permittee Address:	80 NORTH MAIN STREET DRIGGS, ID 83422	Primary SIC Desc:	Sewerage Systems	Permit Effective:	01/01/2011
Major/Minor Indicator:	Minor	Primary NAICS Code:		Permit Expired:	12/31/2015
Compliance Track. Status:	On	Primary NAICS Desc:		Permit Status:	Admin Continued
DMR Non Receipt Flag:	On	Cognizant Official:	JARED GUNDERSON, WWTP OPERATOR		
RNC Tracking Flag:	On	Cognizant Offcl. Ph.:	208-354-2362		
		Receiving Body:	TETON RIVER		

Facility Information

Facility Name:	DRIGGS, CITY OF - DRIGGS WWTP	County:	Teton	FRS ID:	110010027309
Facility Location:	1250 WEST WEST BATES RO DRIGGS, ID 83422	Region:	10	Federal Facility Ownership:	N
		State-Region:	06	Type of Ownership:	Municipality

DMR Non-Receipt Violations

Violation Code	Monitoring Period End Date	DMR Due Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	DMR Value	NODI Code	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date	DMR Val. Rec Date
D80	05/31/2016	06/10/2016	001-A	00010 - Temperature, water deg. centigrade	1	0	C2		N 07/11/2016	2 08/16/2016	08/16/2016
D80	05/31/2016	06/10/2016	001-A	00010 - Temperature, water deg. centigrade	1	0	C3		K 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	00310 - BOD, 5-day, 20 deg. C	1	0	Q1		N 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	00310 - BOD, 5-day, 20 deg. C	1	0	Q2		K 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	00310 - BOD, 5-day, 20 deg. C	1	0	C2		N 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	00310 - BOD, 5-day, 20 deg. C	1	0	C3		K 07/11/2016	2 08/16/2016	08/16/2016
D80	05/31/2016	06/10/2016	001-A	00310 - BOD, 5-day, 20 deg. C	G	0	C2		N 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	00400 - pH	1	0	C1				08/16/2016
D90	05/31/2016	06/10/2016	001-A	00400 - pH	1	0	C3		K 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	00530 - Solids, total suspended	1	0	Q1		N 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	00530 - Solids, total suspended	1	0	Q2		K 07/11/2016	2 08/16/2016	08/16/2016

DMR Non-Receipt Violations: Asterisks around a NODI Code (e.g. **X**) indicate the NODI code will not automatically resolve RNC.
Schedule Violations: Schedule Type P - Permit, A - Administrative, J - Judicial

NPDES ID(s): ID0020141
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Violation Date: 01/01/2015 - 12/09/2020
Violation Type(s): DMR Non-Receipt Violation;Effluent
Violation;Schedule Violation;Single Event Violation

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DMR Non-Receipt Violations

Violation Code	Monitoring Period End Date	DMR Due Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	DMR Value	NODI Code	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date	DMR Val. Rec Date
D90	05/31/2016	06/10/2016	001-A	00530 - Solids, total suspended	1	0	C2		N 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	00530 - Solids, total suspended	1	0	C3		K 07/11/2016	2 08/16/2016	08/16/2016
D80	05/31/2016	06/10/2016	001-A	00530 - Solids, total suspended	G	0	C2		N 07/11/2016	2 08/16/2016	08/16/2016
D80	05/31/2016	06/10/2016	001-A	50050 - Flow, in conduit or thru treatment plant	1	0	Q1		N 07/11/2016	2 08/16/2016	08/16/2016
D80	05/31/2016	06/10/2016	001-A	50050 - Flow, in conduit or thru treatment plant	1	0	Q2		K 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	50060 - Chlorine, total residual	1	0	Q1		N 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	50060 - Chlorine, total residual	1	0	Q2		K 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	50060 - Chlorine, total residual	1	0	C2		N 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	50060 - Chlorine, total residual	1	0	C3		K 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	51040 - E. coli	1	0	C2		N 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	51040 - E. coli	1	0	C3		K 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-A	81010 - BOD, 5-day, percent removal	K	0	C1				08/16/2016
D90	05/31/2016	06/10/2016	001-A	81011 - Solids, suspended percent removal	K	0	C1				08/16/2016
D90	05/31/2016	06/10/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	Q1		N 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	Q2		K 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	C2		N 07/11/2016	2 08/16/2016	08/16/2016
D90	05/31/2016	06/10/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	C3		K 07/11/2016	2 08/16/2016	08/16/2016

Effluent Violations

Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
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Schedule Violations: Schedule Type P - Permit, A - Administrative, J - Judicial

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Violation Type(s): DMR Non-Receipt Violation;Effluent
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Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	11/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	49.17 lb/d	1,071%	<=4.2 lb/d		
E90	11/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	68.16 lb/d	711%	<=8.4 lb/d		
E90	11/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	5.71 mg/l	580%	<= .84 mg/l		
E90	11/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	16.68 mg/l	893%	<=1.68 mg/l		
E90	10/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	82 lb/d	1,852%	<=4.2 lb/d		
E90	10/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	82.9 lb/d	887%	<=8.4 lb/d		
E90	10/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	9.83 mg/l	1,070%	<= .84 mg/l		
E90	10/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	24.85 mg/l	1,379%	<=1.68 mg/l		
E90	09/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	117.36 lb/d	2,694%	<=4.2 lb/d	T 09/30/2020	1 09/30/2020
E90	09/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	120.6 lb/d	1,336%	<=8.4 lb/d		
E90	09/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	14.07 mg/l	1,575%	<= .84 mg/l	T 09/30/2020	1 09/30/2020
E90	09/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	33.63 mg/l	1,902%	<=1.68 mg/l		

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Effluent Violations													
Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	08/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	107.02 lb/d	2,448%	<=4.2 lb/d	T 08/31/2020	1 08/31/2020
E90	08/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	145.21 lb/d	1,629%	<=8.4 lb/d		
E90	08/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	12.78 mg/l	1,421%	<=.84 mg/l	T 08/31/2020	1 08/31/2020
E90	08/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	37.85 mg/l	2,153%	<=1.68 mg/l		
E90	07/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	99.78 lb/d	2,276%	<=4.2 lb/d	T 07/31/2020	1 07/31/2020
E90	07/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	126.78 lb/d	1,409%	<=8.4 lb/d		
E90	07/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	11.93 mg/l	1,320%	<=.84 mg/l	T 07/31/2020	1 07/31/2020
E90	07/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	29.29 mg/l	1,643%	<=1.68 mg/l		
E90	06/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	59.8 lb/d	1,324%	<=4.2 lb/d	T 06/30/2020	1 06/30/2020
E90	06/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	62.91 lb/d	649%	<=8.4 lb/d		
E90	06/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	7.17 mg/l	754%	<=.84 mg/l	T 06/30/2020	1 06/30/2020
E90	06/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	8.98 mg/l	435%	<=1.68 mg/l		

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Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	05/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	80.28 lb/d	1,811%	<=4.2 lb/d	T 05/31/2020	1 05/31/2020
E90	05/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	81.07 lb/d	865%	<=8.4 lb/d		
E90	05/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	9.63 mg/l	1,046%	<=.84 mg/l	T 05/31/2020	1 05/31/2020
E90	05/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	28.59 mg/l	1,602%	<=1.68 mg/l		
E90	04/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	84.19 lb/d	1,905%	<=4.2 lb/d	T 04/30/2020	1 04/30/2020
E90	04/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	89.27 lb/d	963%	<=8.4 lb/d		
E90	04/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	10.11 mg/l	1,104%	<=.84 mg/l	T 04/30/2020	1 04/30/2020
E90	04/30/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	30.5 mg/l	1,715%	<=1.68 mg/l		
E90	03/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	88.74 lb/d	2,013%	<=4.2 lb/d	T 03/31/2020	1 03/31/2020
E90	03/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	92.22 lb/d	998%	<=8.4 lb/d		
E90	03/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	10.64 mg/l	1,167%	<=.84 mg/l	T 03/31/2020	1 03/31/2020
E90	03/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	27.37 mg/l	1,529%	<=1.68 mg/l		

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Effluent Violations

Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	02/29/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	73.01 lb/d	1,638%	<=4.2 lb/d	T 02/29/2020	1 02/29/2020
E90	02/29/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	73.3 lb/d	773%	<=8.4 lb/d		
E90	02/29/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	8.76 mg/l	943%	<=.84 mg/l	T 02/29/2020	1 02/29/2020
E90	02/29/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	27.51 mg/l	1,538%	<=1.68 mg/l		
E90	01/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	65.36 lb/d	1,456%	<=4.2 lb/d	T 01/31/2020	1 01/31/2020
E90	01/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	65.62 lb/d	681%	<=8.4 lb/d		
E90	01/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	7.84 mg/l	833%	<=.84 mg/l	T 01/31/2020	1 01/31/2020
E90	01/31/2020	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	22.04 mg/l	1,212%	<=1.68 mg/l		
E90	12/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	10.17 lb/d	142%	<=4.2 lb/d	T 12/31/2019	1 12/31/2019
E90	12/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	11.69 lb/d	39%	<=8.4 lb/d		
E90	12/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	1.22 mg/l	45%	<=.84 mg/l	T 12/31/2019	1 12/31/2019
E90	12/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	4.75 mg/l	183%	<=1.68 mg/l		

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E90	09/30/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	67.3 lb/d	1,502%	<=4.2 lb/d	T 09/30/2019	1 09/30/2019
E90	09/30/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	80.79 lb/d	862%	<=8.4 lb/d		
E90	09/30/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	8.03 mg/l	856%	<=.84 mg/l	T 09/30/2019	1 09/30/2019
E90	09/30/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	22.58 mg/l	1,244%	<=1.68 mg/l		
E90	08/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	28.06 lb/d	568%	<=4.2 lb/d	T 08/31/2019	1 08/31/2019
E90	08/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	45.82 lb/d	445%	<=8.4 lb/d		
E90	08/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	3.32 mg/l	295%	<=.84 mg/l	T 08/31/2019	1 08/31/2019
E90	08/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	11.64 mg/l	593%	<=1.68 mg/l		
E90	07/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	105.75 lb/d	2,418%	<=4.2 lb/d	T 07/31/2019	1 07/31/2019
E90	07/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	107.07 lb/d	1,175%	<=8.4 lb/d		
E90	07/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	12.99 mg/l	1,446%	<=.84 mg/l	T 07/31/2019	1 07/31/2019
E90	07/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	18.2 mg/l	983%	<=1.68 mg/l		

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E90	05/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	29.02 lb/d	591%	<=4.2 lb/d	T 05/31/2019	1 05/31/2019
E90	05/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	54.64 lb/d	550%	<=8.4 lb/d		
E90	05/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	2.9 mg/l	245%	<=.84 mg/l	T 05/31/2019	1 05/31/2019
E90	05/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	12.6 mg/l	650%	<=1.68 mg/l		
E90	04/30/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	7.38 lb/d	76%	<=4.2 lb/d	T 04/30/2019	1 04/30/2019
E90	04/30/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	10.21 lb/d	22%	<=8.4 lb/d		
E90	04/30/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	.92 mg/l	10%	<=.84 mg/l	V 04/30/2019	1 04/30/2019
E90	04/30/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	3.4 mg/l	102%	<=1.68 mg/l		
E90	03/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	42.15 lb/d	904%	<=4.2 lb/d	T 03/31/2019	1 03/31/2019
E90	03/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	66.93 lb/d	697%	<=8.4 lb/d		
E90	03/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	4.65 mg/l	454%	<=.84 mg/l	T 03/31/2019	1 03/31/2019
E90	03/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	21.4 mg/l	1,174%	<=1.68 mg/l		

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Schedule Violations: Schedule Type P - Permit, A - Administrative, J - Judicial

NPDES ID(s): ID0020141
State: ID
Major/Minor Indicator:
Violation Date: 01/01/2015 - 12/09/2020
Violation Type(s): DMR Non-Receipt Violation;Effluent
Violation;Schedule Violation;Single Event Violation

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Effluent Violations													
Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	02/28/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	37.02 lb/d	781%	<=4.2 lb/d	T 02/28/2019	1 02/28/2019
E90	02/28/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	43.57 lb/d	419%	<=8.4 lb/d		
E90	02/28/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	4.46 mg/l	431%	<=.84 mg/l	T 02/28/2019	1 02/28/2019
E90	02/28/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	15.48 mg/l	821%	<=1.68 mg/l		
E90	01/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	42.07 lb/d	902%	<=4.2 lb/d	T 02/28/2019	1 02/28/2019
E90	01/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	59.72 lb/d	611%	<=8.4 lb/d		
E90	01/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	5.04 mg/l	500%	<=.84 mg/l	T 02/28/2019	1 02/28/2019
E90	01/31/2019	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	19.3 mg/l	1,049%	<=1.68 mg/l		
E90	07/31/2018	001-A	00310 - BOD, 5-day, 20 deg. C	1	0	1		Q1 MO AVG	281.44 lb/d	25%	<=225 lb/d		
E90	07/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	80.86 lb/d	1,825%	<=4.2 lb/d	T 07/31/2018	2 10/31/2018
E90	07/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	101.17 lb/d	1,104%	<=8.4 lb/d		
E90	07/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	9.7 mg/l	1,055%	<=.84 mg/l	T 07/31/2018	2 10/31/2018

NPDES ID(s): ID0020141
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Effluent Violations													
Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	07/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	12.13 mg/l	622%	<=1.68 mg/l		
E90	06/30/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	15.34 lb/d	265%	<=4.2 lb/d	T 06/30/2018	2 12/31/2018
E90	06/30/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	15.99 lb/d	90%	<=8.4 lb/d		
E90	06/30/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	1.84 mg/l	119%	<=.84 mg/l	T 06/30/2018	2 12/31/2018
E90	06/30/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	1.92 mg/l	14%	<=1.68 mg/l		
E90	05/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	93.97 lb/d	2,137%	<=4.2 lb/d	T 05/31/2018	2 12/31/2018
E90	05/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	96.27 lb/d	1,046%	<=8.4 lb/d		
E90	05/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	11.27 mg/l	1,242%	<=.84 mg/l	T 05/31/2018	2 12/31/2018
E90	05/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	11.54 mg/l	587%	<=1.68 mg/l		
E90	04/30/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	73.42 lb/d	1,648%	<=4.2 lb/d	T 04/30/2018	2 12/31/2018
E90	04/30/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	111.69 lb/d	1,230%	<=8.4 lb/d		
E90	04/30/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	8.8 mg/l	948%	<=.84 mg/l	T 04/30/2018	2 12/31/2018

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Effluent Violations

Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	04/30/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	13.39 mg/l	697%	<=1.68 mg/l		
E90	03/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	53.18 lb/d	1,166%	<=4.2 lb/d	T 03/31/2018	2 12/31/2018
E90	03/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	62.27 lb/d	641%	<=8.4 lb/d		
E90	03/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	6.38 mg/l	660%	<=.84 mg/l	T 03/31/2018	2 12/31/2018
E90	03/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	7.47 mg/l	345%	<=1.68 mg/l		
E90	02/28/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	47.94 lb/d	1,041%	<=4.2 lb/d	T 02/28/2018	2 12/31/2018
E90	02/28/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	55.76 lb/d	564%	<=8.4 lb/d		
E90	02/28/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	5.75 mg/l	585%	<=.84 mg/l	T 02/28/2018	2 12/31/2018
E90	02/28/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	6.69 mg/l	298%	<=1.68 mg/l		
E90	01/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	41.25 lb/d	882%	<=4.2 lb/d	T 01/31/2018	2 12/31/2018
E90	01/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	49.04 lb/d	484%	<=8.4 lb/d		
E90	01/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	4.95 mg/l	489%	<=.84 mg/l	T 01/31/2018	2 12/31/2018

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Effluent Violations

Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	01/31/2018	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	5.88 mg/l	250%	<=1.68 mg/l		
E90	10/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	8.48 lb/d	102%	<=4.2 lb/d	T 10/31/2017	2 10/31/2018
E90	10/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	8.48 lb/d	1%	<=8.4 lb/d		
E90	10/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	1.02 mg/l	21%	<=.84 mg/l	V 10/31/2017	2 10/31/2018
E90	09/30/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	25.58 lb/d	509%	<=4.2 lb/d	T 09/30/2017	2 10/31/2018
E90	09/30/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	28.43 lb/d	238%	<=8.4 lb/d		
E90	09/30/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	3.07 mg/l	265%	<=.84 mg/l	T 09/30/2017	2 10/31/2018
E90	09/30/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	3.41 mg/l	103%	<=1.68 mg/l		
E90	08/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	68.59 lb/d	1,533%	<=4.2 lb/d	T 08/31/2017	2 10/31/2018
E90	08/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	84.03 lb/d	900%	<=8.4 lb/d		
E90	08/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	8.22 mg/l	879%	<=.84 mg/l	T 08/31/2017	2 10/31/2018
E90	08/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	10.08 mg/l	500%	<=1.68 mg/l		

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Effluent Violations													
Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	07/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	89.56 lb/d	2,032%	<=4.2 lb/d	T 07/31/2017	2 10/31/2018
E90	07/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	95.9 lb/d	1,042%	<=8.4 lb/d		
E90	07/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	10.74 mg/l	1,179%	<=.84 mg/l	T 07/31/2017	2 10/31/2018
E90	07/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	11.5 mg/l	585%	<=1.68 mg/l		
E90	06/30/2017	001-A	81011 - Solids, suspended percent removal	K	0	1		C1 MINIMUM	60 %	14%	>=65 %		
E90	06/30/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	34.27 lb/d	716%	<=4.2 lb/d	T 06/30/2017	2 10/31/2018
E90	06/30/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	39.89 lb/d	375%	<=8.4 lb/d		
E90	06/30/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	4.11 mg/l	389%	<=.84 mg/l	T 06/30/2017	2 10/31/2018
E90	06/30/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	4.78 mg/l	185%	<=1.68 mg/l		
E90	04/30/2017	001-A	00310 - BOD, 5-day, 20 deg. C	1	0	1		C2 MO AVG	48.85 mg/l	9%	<=45 mg/l		
E90	03/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	27.49 lb/d	555%	<=4.2 lb/d	T 03/31/2017	2 10/31/2018
E90	03/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	35.92 lb/d	328%	<=8.4 lb/d		

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E90	03/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	3.3 mg/l	293%	<=.84 mg/l	T 03/31/2017	2 10/31/2018
E90	03/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	4.31 mg/l	157%	<=1.68 mg/l		
E90	02/28/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	10.54 lb/d	151%	<=4.2 lb/d	T 02/28/2017	2 10/31/2018
E90	02/28/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	20.4 lb/d	143%	<=8.4 lb/d		
E90	02/28/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	1.26 mg/l	50%	<=.84 mg/l	T 02/28/2017	2 10/31/2018
E90	02/28/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	2.45 mg/l	46%	<=1.68 mg/l		
E90	01/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	7.6 lb/d	81%	<=4.2 lb/d	T 01/31/2017	2 10/31/2018
E90	01/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	16.1 lb/d	92%	<=8.4 lb/d		
E90	01/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	6.43 mg/l	665%	<=.84 mg/l	T 01/31/2017	2 10/31/2018
E90	01/31/2017	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	1.93 mg/l	15%	<=1.68 mg/l		
E90	12/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	11.6 lb/d	176%	<=4.2 lb/d	T 12/31/2016	2 10/31/2018
E90	12/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	28.92 lb/d	244%	<=8.4 lb/d		

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E90	12/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	6.67 mg/l	694%	<=.84 mg/l	T 12/31/2016	2 10/31/2018
E90	12/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	3.47 mg/l	107%	<=1.68 mg/l		
E90	11/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	15.99 lb/d	281%	<=4.2 lb/d	T 11/30/2016	2 10/31/2018
E90	11/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	38.53 lb/d	359%	<=8.4 lb/d		
E90	11/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	11.87 mg/l	1,313%	<=.84 mg/l	T 11/30/2016	2 10/31/2018
E90	11/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	4.62 mg/l	175%	<=1.68 mg/l		
E90	10/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	33.6 lb/d	700%	<=4.2 lb/d	T 10/31/2016	2 10/31/2018
E90	10/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	11.9 mg/l	1,317%	<=.84 mg/l	T 10/31/2016	2 10/31/2018
E90	10/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	3 mg/l	79%	<=1.68 mg/l		
E90	09/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	22.07 lb/d	425%	<=4.2 lb/d	T 09/30/2016	2 10/31/2018
E90	09/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	8.35 mg/l	894%	<=.84 mg/l	T 09/30/2016	2 10/31/2018
E90	09/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	2.09 mg/l	24%	<=1.68 mg/l		

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E90	08/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	40.27 lb/d	859%	<=4.2 lb/d	T 08/31/2016	2 10/31/2018
E90	08/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	10.07 lb/d	20%	<=8.4 lb/d		
E90	08/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	15.2 mg/l	1,710%	<=.84 mg/l	T 08/31/2016	2 10/31/2018
E90	08/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	3.8 mg/l	126%	<=1.68 mg/l		
E90	07/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	86.41 lb/d	1,957%	<=4.2 lb/d	T 07/31/2016	2 10/31/2018
E90	07/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	21.6 lb/d	157%	<=8.4 lb/d		
E90	07/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	22.85 mg/l	2,620%	<=.84 mg/l	T 07/31/2016	2 10/31/2018
E90	07/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	5.71 mg/l	240%	<=1.68 mg/l		
E90	06/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	51.52 lb/d	1,127%	<=4.2 lb/d	T 06/30/2016	2 10/31/2018
E90	06/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	12.88 lb/d	53%	<=8.4 lb/d		
E90	06/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	7.55 mg/l	799%	<=.84 mg/l	T 06/30/2016	2 10/31/2018
E90	06/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	1.89 mg/l	13%	<=1.68 mg/l		

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Schedule Violations: Schedule Type P - Permit, A - Administrative, J - Judicial

NPDES ID(s): ID0020141
State: ID
Major/Minor Indicator:
Violation Date: 01/01/2015 - 12/09/2020
Violation Type(s): DMR Non-Receipt Violation;Effluent
Violation;Schedule Violation;Single Event Violation

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ID0020141													
Effluent Violations													
Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	05/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	61.85 lb/d	1,373%	<=4.2 lb/d	T 06/30/2016	2 10/31/2018
E90	05/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	15.46 lb/d	84%	<=8.4 lb/d		
E90	05/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	10.95 mg/l	1,204%	<=.84 mg/l	T 06/30/2016	2 10/31/2018
E90	05/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	2.74 mg/l	63%	<=1.68 mg/l		
E90	04/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	57.43 lb/d	1,267%	<=4.2 lb/d	T 04/30/2016	2 10/31/2018
E90	04/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	14.36 lb/d	71%	<=8.4 lb/d		
E90	04/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	19.55 mg/l	2,227%	<=.84 mg/l	T 04/30/2016	2 10/31/2018
E90	04/30/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	4.89 mg/l	191%	<=1.68 mg/l		
E90	03/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	64.54 lb/d	1,437%	<=4.2 lb/d	T 03/31/2016	2 10/31/2018
E90	03/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	16.13 lb/d	92%	<=8.4 lb/d		
E90	03/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	24.05 mg/l	2,763%	<=.84 mg/l	T 03/31/2016	2 10/31/2018
E90	03/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	6.01 mg/l	258%	<=1.68 mg/l		

DMR Non-Receipt Violations: Asterisks around a NODI Code (e.g. **X**) indicate the NODI code will not automatically resolve RNC.
Schedule Violations: Schedule Type P - Permit, A - Administrative, J - Judicial

NPDES ID(s): ID0020141
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Effluent Violations													
Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	02/29/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	67.35 lb/d	1,504%	<=4.2 lb/d	T 02/29/2016	2 10/31/2018
E90	02/29/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	16.84 lb/d	100%	<=8.4 lb/d		
E90	02/29/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	23.9 mg/l	2,745%	<=.84 mg/l	T 02/29/2016	2 10/31/2018
E90	02/29/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	5.98 mg/l	256%	<=1.68 mg/l		
E90	01/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	55.63 lb/d	1,225%	<=4.2 lb/d	T 01/31/2016	2 10/31/2018
E90	01/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	13.91 lb/d	66%	<=8.4 lb/d		
E90	01/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	20.85 mg/l	2,382%	<=.84 mg/l	T 01/31/2016	2 10/31/2018
E90	01/31/2016	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	5.21 mg/l	210%	<=1.68 mg/l		
E90	12/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	61.85 lb/d	1,373%	<=4.2 lb/d	T 12/31/2015	2 10/31/2018
E90	12/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	15.46 lb/d	84%	<=8.4 lb/d		
E90	12/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	10.95 mg/l	1,204%	<=.84 mg/l	T 12/31/2015	2 10/31/2018
E90	12/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	2.74 mg/l	63%	<=1.68 mg/l		

NPDES ID(s): ID0020141
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Violation Date: 01/01/2015 - 12/09/2020
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Violation;Schedule Violation;Single Event Violation

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Effluent Violations													
Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	11/30/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	28.13 lb/d	570%	<=4.2 lb/d	T 11/30/2015	2 10/31/2018
E90	11/30/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	11.1 mg/l	1,221%	<=.84 mg/l	T 11/30/2015	2 10/31/2018
E90	11/30/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	2.77 mg/l	65%	<=1.68 mg/l		
E90	10/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	14.12 lb/d	236%	<=4.2 lb/d	T 10/31/2015	2 10/31/2018
E90	10/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	6.11 mg/l	627%	<=.84 mg/l	T 10/31/2015	2 10/31/2018
E90	09/30/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	.88 mg/l	5%	<=.84 mg/l	V 09/30/2015	2 10/31/2018
E90	08/31/2015	001-A	51040 - E. coli	1	0			C3	435	7%	<=406		
E90	08/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	1.06 mg/l	26%	<=.84 mg/l	V 08/31/2015	2 10/31/2018
E90	07/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	4.3 lb/d	2%	<=4.2 lb/d	V 07/31/2015	2 10/31/2018
E90	06/30/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	54.53 lb/d	1,198%	<=4.2 lb/d	T 06/30/2015	2 10/31/2018
E90	06/30/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	13.63 lb/d	62%	<=8.4 lb/d		
E90	06/30/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	6.86 mg/l	717%	<=.84 mg/l	T 06/30/2015	2 10/31/2018
E90	06/30/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	1.72 mg/l	2%	<=1.68 mg/l		

DMR Non-Receipt Violations: Asterisks around a NODI Code (e.g. **X**) indicate the NODI code will not automatically resolve RNC.
Schedule Violations: Schedule Type P - Permit, A - Administrative, J - Judicial

NPDES ID(s): ID0020141
State: ID
Major/Minor Indicator:
Violation Date: 01/01/2015 - 12/09/2020
Violation Type(s): DMR Non-Receipt Violation;Effluent
Violation;Schedule Violation;Single Event Violation

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Effluent Violations													
Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	05/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	44.43 lb/d	958%	<=4.2 lb/d	T 05/31/2015	2 10/31/2018
E90	05/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	11.1 lb/d	32%	<=8.4 lb/d		
E90	05/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	20.95 mg/l	2,394%	<=.84 mg/l	T 05/31/2015	2 10/31/2018
E90	05/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	15.23 mg/l	807%	<=1.68 mg/l		
E90	04/30/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	29.66 lb/d	606%	<=4.2 lb/d	T 04/30/2015	2 10/31/2018
E90	04/30/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	118.64 lb/d	1,312%	<=8.4 lb/d		
E90	04/30/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	30.9 mg/l	3,579%	<=.84 mg/l	T 04/30/2015	2 10/31/2018
E90	04/30/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	7.72 mg/l	360%	<=1.68 mg/l		
E90	03/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	54.94 lb/d	1,208%	<=4.2 lb/d	T 03/31/2015	2 10/31/2018
E90	03/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	13.73 lb/d	63%	<=8.4 lb/d		
E90	03/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	29.15 mg/l	3,370%	<=.84 mg/l	T 03/31/2015	2 10/31/2018
E90	03/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	7.28 mg/l	333%	<=1.68 mg/l		

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Schedule Violations: Schedule Type P - Permit, A - Administrative, J - Judicial

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Violations Report

ID0020141

Effluent Violations

Violation Code	Monitoring Period End Date	Limit Set	Parameter	Mon. Loc.	Seas. ID	SNC Group	EA Identifier	Value Type/ Stat. Base	Reported Value/Units	% Exceed.	Limit Value/ Units	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
E90	02/28/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	50.45 lb/d	1,101%	<=4.2 lb/d	T 02/28/2015	2 10/31/2018
E90	02/28/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	12.61 lb/d	50%	<=8.4 lb/d		
E90	02/28/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	29.08 mg/l	3,362%	<=.84 mg/l	T 02/28/2015	2 10/31/2018
E90	02/28/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	7.27 mg/l	333%	<=1.68 mg/l		
E90	01/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q1 MO AVG	75.52 lb/d	1,698%	<=4.2 lb/d	T 01/31/2015	2 10/31/2018
E90	01/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		Q2 DAILY MX	18.88 lb/d	125%	<=8.4 lb/d		
E90	01/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C2 MO AVG	27.44 mg/l	3,167%	<=.84 mg/l	T 01/31/2015	2 10/31/2018
E90	01/31/2015	001-B	00610 - Nitrogen, ammonia total [as N]	1	0	1		C3 DAILY MX	6.86 mg/l	308%	<=1.68 mg/l		

Schedule Violations

Violation Code	Sch. Event Code	Schedule Date	Actual Date	Report Received Date	EA Identifier	Sch. Num.	Sch. Type	Schedule Event/ Comments	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
C40	74905	07/04/2015	08/28/2015	08/28/2015		4	P	Apply for Permits Comment:	N 08/04/2015	2 08/28/2015
C30	74905	07/04/2015	08/28/2015	08/28/2015		4	P	Apply for Permits Comment:	N 08/04/2015	2 08/28/2015
C20	74905	07/04/2015	08/28/2015	08/28/2015		4	P	Apply for Permits Comment:		
C10	74905	07/04/2015	08/28/2015	08/28/2015		4	P	Apply for Permits Comment:		

NPDES ID(s): ID0020141
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Violation Type(s): DMR Non-Receipt Violation;Effluent
Violation;Schedule Violation;Single Event Violation

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Single Event Violations

Violation Code	Single Event Start Date	Single Event End Date	Agency type	Violation Description/ Comments	RNC Det. Code/ RNC Det. Date	RNC Res. Code/ RNC Res. Date
C0014	07/01/2020	09/01/2020	State	Monitoring Violations - Invalid/Unrepresentative Sample Comment:		
C0015	07/01/2020	09/01/2020	State	Monitoring Violations - Frequency of Sampling Violation Comment:		
C0016	07/01/2020	09/01/2020	State	Monitoring Violations - No Flow Measurement Device Comment:		
A0026	05/01/2020	05/04/2020	State	WW SSO - Overflow to Dry Land or Building Backup Comment:		

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RNC Detection Codes

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Violation Type	RNC Detection Code	RNC Detection Description
DMR Non-Receipt (D80, D90)	K	RPT - Non-receipt Violation, Non-Monthly Average
	N	RPT - Non-Receipt of DMR/Schedule Report
Effluent (E90)	A	ENF - Enforcement Order
	C	CHR - Chronic Violation
	H	CHR - Chronic Violation, Non-Monthly Average
	P	ENF - Enforcement Order, Non-Monthly Average
	R	TRC - TRC Limitations Exceeded, Non-Monthly Average
	T	TRC - TRC Limitations Exceeded
	U	EFF - Other Violation with TRC Non-Monthly Average
	V	EFF - Other Violation with TRC
	X	EFF - Manual Other Violation with TRC
	Y	TRC - Manual TRC
Schedule Violations (C10, C20, C30, C40)	Z	CHR - Manual Chronic
	N	SCH - Non-Receipt of DMR/Schedule Report
	S	SCH - Schedule Violation
Single Event	B	DIS - Manual 2A4 - Pass-Through
	D	DIS - Manual Other
	E	DIS - Manual 2F - Permit Narrative
	F	DIS - Manual 2G - Violation of Concern
	G	DIS - Manual 2A1 - Effluent Violation
	I	DIS - Manual 2A2 - Unauthorized Bypass
	J	DIS - Manual 2A3 - Unpermitted Discharge
	Q	DIS - Manual 2B - Pretreatment
	W	DIS - Manual 2E - Deficient Report

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RNC Resolution Codes

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RNC Resolution Status	RNC Resolution Code	RNC Resolution Description
Noncompliant (NC)	1	NC - Unresolved RNC
	A	NC - Manual Unresolved RNC
Resolved Pending (RP)	3	RP - Due to Formal Enforcement Action Final Order with Compliance Schedule
	4	RP - In Compliance with Formal Enforcement Action Final Order Requirement
	7	RP - Manual RP - In Compliance with Formal Enforcement Action Order Requirement
	8	RP - Manual Due to Formal Enforcement Action Formal Order
Resolved (RE)	0	RE - Two Years Past Detection (System Administratively Resolved)
	2	RE - Back into Compliance
	5	RE - Resolved RP by NPDES Closure of Enf. Action Final Order with Comp. Schedule
	6	RE - Manual Resolution by Enforcement Action
	9	RE - Manual by Back into Compliance/Administratively Resolved
	B	RE - Manual by EPA/State/Tribal Action

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NODI Codes

NODI Code	Acceptable?	NODI Description
1	N	Wrong Flow
2	Y	Operation Shutdown
3	Y	Special Report Attached
4	Y	Discharge to Lagoon/Groundwater
5	Y	Frozen Conditions
6	N	State-specific No Data Indicator - Invalid
7	Y	No Influent
8	N	Other (See Comments)
9	Y	Conditional Monitoring - Not Required This Period
A	Y	General Permit Exemption
B	Y	Below Detection Limit/No Detection
C	Y	No Discharge
D	N	Lost Sample/Data Not Available
E	N	Failed to Sample/Required Analysis Not Conducted
F	Y	Insufficient Flow for Sampling
G	N	Sampling Equipment Failure
H	N	Invalid Test
I	Y	Land Applied
J	Y	Recycled - Water-Closed System
K	Y	Natural Disaster
L	N	DMR Received but not Entered
M	N	Laboratory Error
N	Y	Not Constructed
P	N	Laboratory Error or Invalid Test
Q	Y	Not Quantifiable
R	Y	Administratively Resolved
S	Y	Fire Conditions
T	Y	Environmental Conditions - Monitoring Not Possible
V	Y	Weather Related
W	Y	Dry Lysimeter/Well
X	N	Parameter/Value Not Reported
Y	Y	State-specific No Data Indicator - Valid
Z	Y	COVID-19

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DMR Violation Codes

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Violation	Violation Code	Violation Indicator Type
DMR Non-Receipt Violation	D80	DMR, Monitor Only - Overdue
	D90	DMR, Limited - Overdue
Effluent Violation	E90	DMR, Limited - Numeric Violation

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Schedule Violation Codes

Violation	Violation Code	Violation Indicator Type
Schedule Violation	C10	Schedule Event reported late
	C20	Schedule Event achieved late but reported
	C30	Schedule Event unachieved but reported
	C40	Schedule Event unachieved and not reported

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Monitoring Location Codes

Monitoring Location Codes	Monitoring Location Description
0	Intake
1	Effluent Gross
2	Effluent Net
3	Intake Public Water
4	Pretreatment, Process Complete
5	Upstream Monitoring
6	Downstream Monitoring
7	Intake from Stream
8	Other Treatment, Process Complete
9	Phosphate Removal, Process Complete
A	Disinfection, Process Complete
AP	Alternate Process
B	Prior to Disinfection
C	Nitrogen, Removal Complete
CA	Calculated Adjusted
D	Tertiary/Advanced Process Complete
E	Secondary/Biological Process Complete
E1	Effluent Option 1
E2	Effluent Option 2
E3	Effluent Option 3
EA	Effluent Adjusted Value
ED	Effluent w/additives
EG	Effluent Gross
F	Primary/Preliminary Process Complete
G	Raw Sewage Influent
GW	Groundwater
H	During Manufacturing
I	Intake from Well
II	Industrial Influent
IM	Internal Monitoring Point
IN	Allowed Increase
J	Intermediate Treatment, Process Complete
K	Percent Removal
L	Digester
LA	Land Application Soil
N	In Aeration Unit
O	See Comments
P	See Comments
PI	Prior to Irrigation
PR	Prior to Reuse
PT	Precipitation
Q	See Comments
R	See Comments
RS	Beneficial Reuse
RW	Receiving Water
S	See Comments
SC	See Comments
SD	Sediment
SL	Sludge
SW	Storm Water
T	See Comments
U	See Comments
V	See Comments

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Monitoring Location Codes

Monitoring Location Codes	Monitoring Location Description
W	See Comments
X	End of Chlorine Contact Chamber
Y	Effluent Gross (Supplementary)
Z	Instream Monitoring

Appendix H – Certifications